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INDUSTRY
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Connecticut INDUSTRY

MANUFACTURERS' ASSOCIATION OF CONNECTICUT, INC.

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L. M. BINGHAM, Editor

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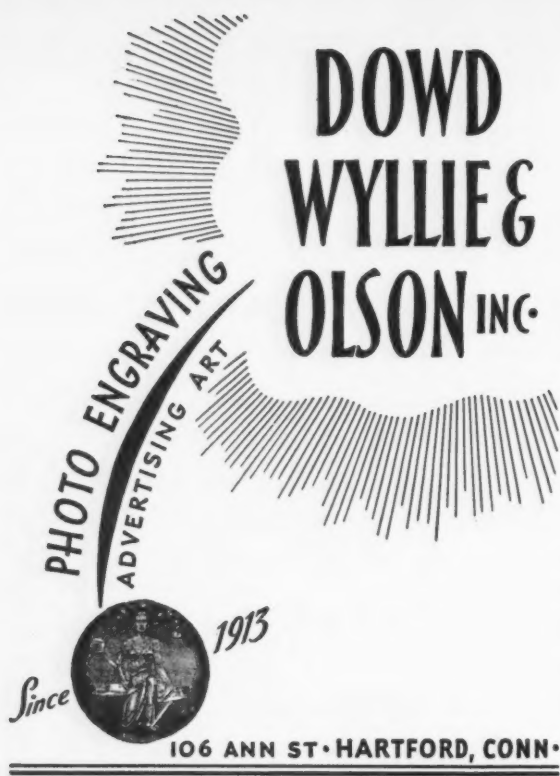
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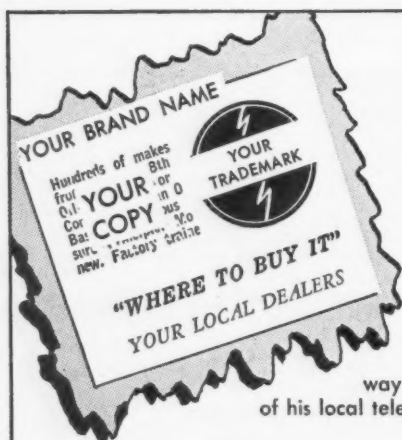
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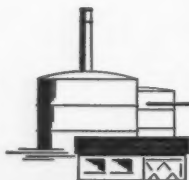
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The American Way And A Rotten Apple

By HENRY WOODBRIDGE*

Vice President, American Optical Company, Putnam

THE "American Way" is the first "Way" in recorded history in which the manufacturer and businessman has been the equal of the statesman, the warrior, the priest, and the landholder. And the "American Way" has not only produced the best living conditions in world history but also has produced better living conditions for more people than have ever been known. Is this combination of the best living conditions in world history for more people, and the position of the businessman, a mere coincidence? Of course not! The record speaks for itself. And furthermore the intelligent American, regardless of his educational background, knows this and does not want it changed.

Then, why talk about it? For a very good reason and that is because the seeds of destroying our "American Way" have been knowingly sown and are being cultivated, perhaps unwittingly, by many who ought to know better. The only way to preserve it is to fight every effort to destroy it and to fight those efforts at their very inception whether they are the work of few, who are willful, or many, who may be theoretical or sentimental.

Because businessmen and manufacturers have, in almost every case, had to work their way, the hard way, they fight hardest to preserve our "American Way" because they know its worth and the opportunities it gives to untold millions. Are they thanked for this? Unfortunately, no! More often than not they are attacked by politicians and labor leaders, the very men who should know better than anyone else the true value of what the manufacturer and businessman are fighting to preserve.

Let's face it: the manufacturer and businessman finds himself in a difficult position when attacked by politicians and labor leaders. There are many reasons for this but let us discuss two.

Businessmen and manufacturers deal in facts. They are, in truth, conservatives—and a real conservative is a liberal or a progressive with a sense of responsibility. They cannot and will not deal in demagoguery or "campaign oratory." They say what they truly believe and they expect to be believed. That is not true of the politician and hasn't been since the presidential campaign of 1800 when exaggerations and half-truths were first introduced into American politics. This lack of truthfulness—and that's what it is—on the part of the American politician, which is unfortunately accepted by most Americans with a shrug of the shoulders, may easily one day be the major reason for our losing our democratic form of government.

* The author of this month's guest editorial became a director of the Association January 1, 1954 to represent Windham County. After attending Harvard University Mr. Woodbridge first became associated with Stone & Webster, Inc. of Boston. Prior to joining American Optical Co., in 1941, he was general manager of Raymond-Whitcomb, Inc. and business manager of Boston Evening Transcript. Among his present business affiliations are: member Connecticut Development Commission, president Tri-County Development Corp., Trustee, Old Sturbridge Village and director Connecticut Forest and Park Association.

Politicians seek popularity and almost always try to say what their listeners would like to hear, regardless of facts; and they do not hesitate to appeal to the covetousness latent in everyone. Although it may be harsh to say so, this is nothing less than immorality. No wonder businessmen are driven to silence and hence are misunderstood by the unthinking whose uncontrolled emotions and feelings have been aroused by the outrageous but accepted methods of the average modern politician. (Thank God there are exceptions to this and Connecticut can be proud of those of our politicians who are exceptions.)

Businessmen have an equally difficult relationship with many of our well-known labor leaders. Labor leaders, generally speaking, are elected to their positions and they want to hold them and so they want to win "victories" over the companies they deal with—and they want these "victories" regardless of whether or not they are good for the nation, an industry, or a company. The union system forces on them a position of irresponsibility. (Fortunately there are labor leaders who disdain chicanery and are outstanding in their acceptance of responsibility.) Almost every year they brag of having wrested concessions out of the companies with whom they deal as if the companies opposed the men who work for them. What kind of hope does this constant castigation of companies hold for the future of industrial relations, which must be based on loyalty that is both given and received? Again, more often than not, businessmen are driven to silence and as a result are misunderstood.

Businessmen do not claim perfection. There have been abuses in the past resulting in corrective legislation that has laid down "rules of the game" that business follows and lives up to. In line with these rules the Securities and Exchange Commission has been set up to protect stockholders from management and from exploitation. How about including in the "rules of the game", a Union Finance Commission to protect the union members from their "Managements" and also from exploitation? Too many recent examples of the misuse of union funds have occurred to make it necessary to present arguments for this. A rotten apple will eventually spoil the whole barrel and our economic barrel can be spoiled by rotten unions just as much as by rotten companies. And this must be remembered: It is comparatively easy for unions to be rotten under existing laws and almost impossible for companies to be (unless the latter break the laws, in which case there are appropriate penalties).

If politicians and labor leaders would follow the lead of the Average American businessman and stick to facts and fight for what they believe in with integrity, our country's future progress would be greater than anything that even our fertile imaginations can conceive. If American businessmen fight to perpetuate the American Way, progress will be assured. Because progress is the American Way.



AERIAL PHOTO OF WATERBURY TOOL COMPANY.

Waterbury Tool Company

A Pioneer Connecticut Industry

ONE of the more recent innovations in the motor car is the introduction of power steering, a feature made possible by the application of oil hydraulics. This is of more than passing interest to readers of CONNECTICUT INDUSTRY due to the fact that the oil hydraulic industry was founded in Waterbury, Connecticut fifty years ago. It arrived through

the pioneer efforts of the Waterbury Tool Co., now a division of Vickers, Incorporated.

1903—A Notable Year

It came in 1903, a year which saw the advent of a remarkable number of technical advances, for it was in that year that three of the most dramatic achievements in the nation's industrial



WARREN E. ROUSE

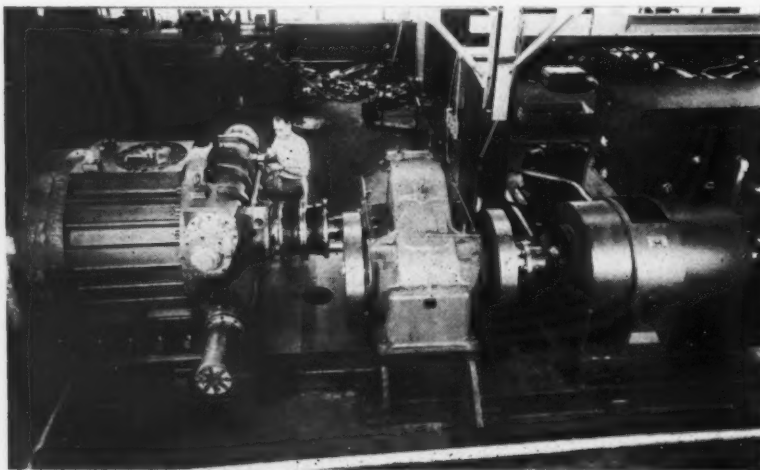
history were unveiled. They center around aviation, automobiles, and the power hydraulic industry.

In 1903, the Wright brothers first achieved successful powered flight—the birth of the aircraft industry.

In 1903, Henry Ford first applied mass production methods to automobiles—the birth of the automobile industry as we know it today.

And it was here in Waterbury—in 1903—that the first self-contained, high pressure oil hydraulic transmission was successfully operated. This demonstration of a basically new method for transmitting and controlling power marked the birth of the power hydraulic industry.

Waterbury's role in the oil hydraulic industry development is accented now by the construction of the largest high pressure oil hydraulic pump ever built. It delivers 2,300 gallons of oil per min-



HENRY LEGERE of the test department, is shown by a 20-ton pump, the largest oil hydraulic pressure pump ever built.

ure and handles 4,000 horsepower at 3,000 pounds per square inch and weighs over 20 tons. It will operate an 18" tube reducing machine being built by E. W. Bliss Co., Canton, Ohio, for the Tube Reducing Co., Wallington, N. J. This machine is expected to begin operations sometime in the spring of this year.

At the annual meeting of the Hydraulic Industry held October 8-10, 1953, in Chicago, interest in this large pump was so great that an entire session was spent discussing its possible future application in industry. Business and technical papers have written numerous articles about this 20-ton pump, and a leading design magazine published a feature article with a cover photo in its February, 1954 issue.

Solution of Power Transmission Problems—Mission of Company

It is noted that there is more than a time relationship among the three events previously mentioned. Both the airplane and the automobile posed power transmission problems. The airplane of that day needed a means of transmitting power to two propellers from one engine—and the automobile of that time sought a transmission which would provide a variable relation between the engine and the driving wheels. Harvey D. Williams, who invented the Waterbury transmission, actually had the auto and airplane in mind when in 1901 he interested H. G. Hoadley, owner of the Waterbury Tool Co., in the manufacture of his transmission.

Mr. Hoadley knew Prof. Williams from the time he took courses at Cornell University where Williams was an instructor in machine design. In fact, the Waterbury Tool Co. was started in 1898 to manufacture ratchet drills invented by Williams.

Work on a model was begun in March of 1901 and by 1903 a successful, if noisy, unit was completed. Although exhibited in a number of trade shows that year, the device attracted practically no attention. In spite of the lack of interest in the transmission, this unit inaugurated the new era of power oil hydraulics.

Williams at this time was an engineer in the Bureau of Ordnance so he logically turned to the Navy for possible applications of his transmission. He learned that a new or improved method of operating and controlling the big gun turrets of battleships was being sought. A more accurate and



VARIOUS PHASES in the production of Waterbury Tool's 20-ton oil hydraulic pump are shown in this series of photos. (Top) assembling controls in case head. (Right) scraping seat for bearings; (lower left) rotating assembly; (lower right) fitting rotating assembly into housing.

dependable control with a greater range of speeds was imperative. Considerable difficulty had been experienced in keeping the intricate and complicated electrical control system in service.

Work was begun in September, 1904 on two hydraulic transmissions specially designed for gun turrets. Reynold Janney, a Waterbury engineer, did most of the development work. Under his direct supervision, the work on the transmissions was pushed along as rapidly as possible in the plant of the New Britain Machine Company at New Britain, Connecticut.

After shop and laboratory tests, one of the transmissions was taken to Washington and further tested at the Navy Yard and at Indian Head. As a result of the success of the Service tests, an order was placed for a transmission to be installed on the U. S. S. VIRGINIA to elevate the primary batteries of 12 inch guns. This installation, completed in June 1906, marked the first successful application of oil power hydraulics.

Gun Turret, Ammunition Lifting and Steering Gear Transmissions

The first installation was so advantageous that by 1908 about a hundred such installations were made. The Williams-Janney hydraulic variable speed transmission, as the transmission came to be called, became standard equipment for elevating gun turrets, not only in the U. S. Navy, but in all the fleets of the world.

The Williams-Janney hydraulic variable speed transmission consisted of a nine piston variable stroke pump and a fixed stroke or constant displacement hydraulic motor. The two units could be placed in the same housing in parallel or at any angle or they could be installed as separate units adjacent or at some distance from each other. From this basic power unit almost all modern oil hydraulic high pressure piston pumps and motors have been evolved.

Shortly after the first turret applications, the transmission was adopted for hoisting ammunition from the magazines to the guns. In 1916, a contract was placed with Waterbury Tool to design and build a hydraulic steering gear pump for the U. S. S. NEW MEXICO, the largest and fastest battleship of its time. The success of this type of steering gear duplicated that of the transmission for elevating guns and soon became standard for all

surface and undersea naval craft. This type of electro-hydraulic steering gear, constantly improved, is still in use by most naval and merchant marine vessels and passenger liners.

During the period 1906-1919 almost all the facilities of Waterbury Tool were taken up with the development of hydraulic drives for the Navy Department. However, a number of industrial applications were made. In 1914, a transmission was sold to the American Brass Company at Kenosha, Wisconsin, for use on a drawbench. In 1915, a transmission, consisting of one pump and two hydraulic motors, was installed on a White truck. The truck gave satisfactory service for several years. In 1919, a drive for a rubber calender was furnished to the St. Louis branch of the U. S. Rubber Company.

Development of the Industrial Market

The Disarmament Conference of 1921, which practically scrapped the Navy building program, left the Waterbury Tool Co. practically without a market. In the industrial field, which was then intensively cultivated, particular interest was developed in the paper mill equipment field. Hundreds of transmissions were sold to paper mills, the first in 1924. Many of these original installations are still in service. Among standard machine tools, applications were made on large milling machines and on broaches. Billet gougers, built with Waterbury transmissions, were installed by many of the major steel mills. Applications were also made on cable and stranding machines, copper casting wheels and special machines of many types.

An interesting pioneer application of the transmission was on a railway car. This installation, the first hydraulically driven railway car in the United States, was put into service in 1923 on the Waterbury-Bristol run of the New York, New Haven and Hartford Railroad Co. A 150 H. P. gas engine drove the pump and two hydraulic motors.

Navy Transmissions Improved

During the early 1930's, with the acceleration of the Navy's building program, many new types of vessels with more exacting power requirements spurred the development of hydraulic units and controls of improved design. For example, the primary 16 inch batteries of our new battleships are mounted in turrets which weigh

over 1,800 tons or as much as a modern destroyer.

Waterbury Tool is now manufacturing the steering gear pump and other hydraulic equipment for the super aircraft carriers "Forrestal" and "Saratoga" and is supplying hydraulic equipment for the Navy's first atomic powered submarines "Nautilus" and "Sea Wolf."

The pride of the U. S. merchant marine—the "United States" is steered with pumps manufactured here and so are the pumps for many of the freighters, tankers and cargo ships flying the U. S. flag.

Plant Expansion

Some of the recent local industrial applications include conveyor drives at the Chase Metal Works, Waterville, wire rope drives at the American Steel & Wire Co., New Haven, and an electrical cable drive at Rockbestos Products Corp., New Haven.

The local plant was constructed in 1916 at its present site and has been enlarged several times since then. The original handful of employees now numbers over 600 and during the peak World War II years, over 2,000 employees were needed to supply the Navy.

The general manager, Warren E. Rouse, began his business career as an engineer with Waterbury Tool back in 1916. He has held various positions at this company and Vickers Inc., Detroit, and was promoted to General Manager of Waterbury Tool in 1950.

Waterbury Tool was acquired by the Sperry Corp. in 1935. In 1940 it became a division of Vickers Inc., another of the Sperry Corp. group. Wheeler Insulated Wire Co., situated adjacent to the Waterbury Tool, is also part of the Sperry Corp. group.

Vickers Inc. was founded in 1921 by Harry Vickers and it was under his leadership that the oil hydraulic industry experienced its real expansion and industrial growth. This did not come until 1927 when Harry Vickers developed a basically different pumping principle—the low cost balanced vane type pump. This unit answered industry's requirements for an efficient, dependable, low cost, high pressure source, and marked the start of a new era in hydraulics which saw one industry after another—from machine tools to automobiles—"go hydraulic."

(Continued on page 39)

Economics Course via TV

For Employed Persons

By AL LEPOW

EDUCATING employees on the operation of our economics, a major concern of modern organizations, will soon be made easier if the rest of the country follows the examples presently being set by the University of Bridgeport and WICC-TV (Channel 43).

These two organizations, pioneers in educational television in the New England area, have pooled their resources to present a fifteen-week course entitled "The ABC's of Economics," which started Monday, February 15. Aired three times weekly on Mondays, Wednesdays, and Fridays, it can be viewed from 10:00 to 10:50 p. m.

Designed specifically with the employed person in mind, the course, which is being taught by Dr. Hans Apel, chairman of the University's department of economics, is co-sponsored by the Calvin K. Kazanjian Economics Foundation, Inc., an organization devoted to the better understanding of the American economic structure.

Bridgeport and WICC-TV had previously offered two other courses via television, but both were given during the afternoon hours, and were unavailable for the man who is away from home earning the family income. A considerable number of requests for night TV offerings were received by the university's Television Extension Center, and as a result, the hours of 10:00 to 10:50 were evolved.

Four Study Plans Available

One of the striking angles to the program is the fact that it not only makes free education on the higher level available to the adult population of Fairfield, New Haven, Nassau and Suffolk Counties, but also gives them a chance to earn three regular college credits.

Under the plan the university makes possible four different plans under which a "televviewer" may study.



DR. HANS APEL (right) conducts his "ABC's of Economics" class over WICC-TV, with his recent guest, George L. Todd of the Bullard Company, Bridgeport (left).

The first of these is the most simple and costs the viewer absolutely nothing. He may receive, free of charge, a course outline which briefly explains the various lectures, and discussions to be seen on the TV screen. This may be obtained merely by request from the Extension Center.

Under plan two, upon payment of one dollar, the home viewer will receive a complete detailed course syllabus, which lists every program and its major points, thereby allowing him to follow the course explicitly. It also contains recommended readings and outside work which the student may perform if he so desires.

Plan three is the same as the previous plan, but includes, in addition, the textbooks upon which the course is based. This costs the home viewer a total of \$7.50.

College credits may be earned only through plan four. Enrollees under this plan will be required to purchase the textbook and syllabus, and in addition,

seriously follow the course as it progresses. They must also submit written work, which is assigned via the air waves. This work, handled completely through the mail, is closely checked by the instructor, and returned with a grade to the student. At the completion of the course, the home student will be required to undergo a written final examination, either at the university, or some educational institution closer to his home.

Of course, should the viewer desire, he can merely turn his dial to channel 43 and view the proceedings wherever he wishes.

A program of this type can, and undoubtedly will have a serious effect upon the present structure of education for the employed person. With the far reaching aspect of television, and the already proven value it has to education, this TV course should be a boon to employees throughout the nation. If every employee who is in

(Continued on page 46)



THE AUTHOR is shown here with instruments used in the field and laboratory for measurement of industrial noise.

The Industrial Hygiene Engineer Looks At The Noise Problem

By LOUIS J. PROULX, JR., B.S., *Senior Industrial Hygiene Engineer*
Bureau of Industrial Hygiene, Connecticut State Department of Health

Editor's Note: This article is the second in a series of articles dealing with the physical and economic implications of the noise problems in industry. The first article in the March issue, entitled "Combating the Effects of Noise," described experiments by the Allis Chalmers Manufacturing Company, while this article gives the views of an engineer in the Connecticut Bureau of Industrial Hygiene, which is well equipped to assist industry in discovering noise hazards and suggesting remedies to minimize or eliminate them.

INDUSTRIAL hygiene agencies have been engaged in the detection, evaluation and control of industrial health hazards for many years. These hazards have generally been in the category of atmospheric contaminants such as dusts, fumes, vapors or gases. The rapidly increasing recognition of noise as an industrial health hazard has given the industrial hygiene engineer a new task requiring special training as well as new instruments and techniques. The Bureau of Industrial Hygiene of the State Department

of Health is now well equipped to discharge its responsibilities resulting from developments of the recent past.

Industrial noise is not a new problem. "Boilermaker's Deafness" has been recognized for many years. However, the scope of the problem has been recognized only recently. Interest in the matter was greatly accelerated during World War II by the obviously high noise levels produced by newer, more powerful aircraft engines. In some other industries, increased noise resulting from higher production rates

and heavier machinery also raised the question of possible hearing damage. Some farsighted firms inaugurated programs of noise measurement and control as well as routine audiometric testing of employees.

Definition

If a discussion of noise is to be intelligible, it is desirable to define the term. Noise is generally said to be unwanted or undesired sound. Sound is physically an alternation of air pressure above and below atmospheric pressure, such excursions of pressure being set up by some vibrating body. The disturbance, thus generated, travels outward from the vibrating source at the velocity of 1,128 feet per second, this figure being commonly referred to as the "speed of sound." This value is for ordinary air and differs with temperature and density. It is also different when the sound is propagated through other media such as metal or water.

The alternations in pressure producing sound may be small or large depending on the extent of vibration of the sound source. The greater the change in pressure, the louder the sound will be. Thus, loud noises result from rather severe vibration of the noise source.

Until quite recently much of the opinion regarding the noise hazard has lacked a substantial factual foundation. At present a number of organizations, including the American Standards Association, are attempting to analyze the available data and provide a valid damage-to-hearing standard for the guidance of industrialists and public administrators. Information presently available indicates that noise levels rather commonly encountered in industry may cause serious hearing damage. The degree of hearing loss, of course, depends upon the noise level and length of exposure.

Problems Involved

Much of the difficulty in attempting to establish standards for tolerable noise levels resulted from the observation that all noises of the same apparent intensity did not seem to produce the same degree of hearing damage. Thus, a more detailed consideration of the nature of various noises was required.

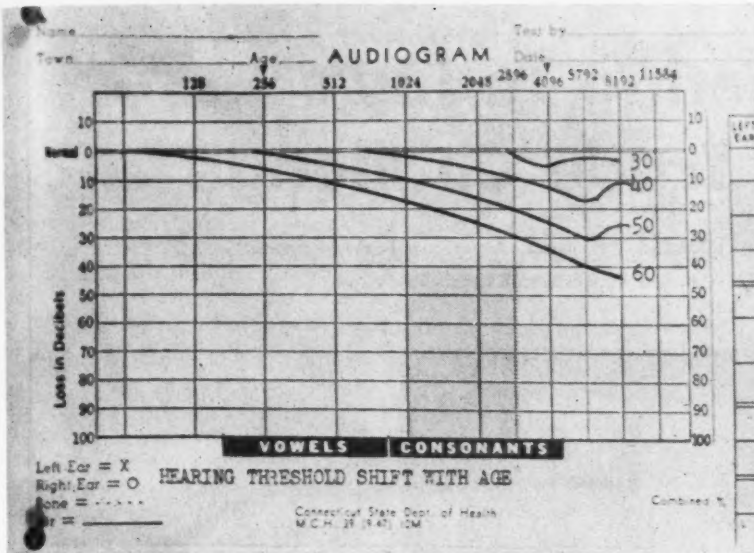
Industrial noises are generally complex, resulting from the vibration of many different objects. All audible

Noise Controls

The big problem in cases where excessive noise levels are demonstrated is what control can be achieved at reasonable cost. Considerable protection for the worker can be provided through use of suitable ear plugs or muffs. However, these have the same objection as other personal protective devices in that they may become lost, inoperative through improper fitting or use, or may be so unpopular with many workers that they are used very little. Basically, noise reduction is a matter of machinery design and much is being done to reduce it in new industrial equipment. With old machines, much can often be accomplished merely through maintenance and lubrication. Vibration absorbing mountings will also help in some instances. Enclosure will frequently serve to localize the problem and acoustic treatment, if properly done, may be used with success in other instances.

Although adequate equipment and techniques are available for the measurement of noise at the present time, health administrators and others interested in the problem are reluctant to offer recommendations for noise reduction except in its simplest and least expensive form, until generally accepted hearing damage standards

(Continued on page 50)



AUDIOMETRIC TESTS are recorded on charts such as this. Average normal loss of hearing due to age, called presbycusis, is represented by the lines on the chart for ages 30, 40, 50 and 60 years. The normal loss of hearing complicates the otologist's problem in determining industrial hearing loss.

frequencies will be present in the noise, but with varying intensity, depending on the sources producing them. An analysis of noise to determine the distribution of energy in relation to frequency is now rather generally accepted as providing the most reliable basis for discovering its potential hazard. The frequency range from 20 to 10,000 cycles per second is divided into eight ranges, called octave bands, and the sound pressure level in each is measured. These figures may be compared to the suggested limits presently being used by a number of experts in this field. Limits eventually proposed by the national organizations undoubtedly will also be based on the same "octave-band analysis."

Methods of Measurement

An adequate evaluation of a noise exposure requires considerable knowledge, equipment and a variety of techniques. For continuous noise, such as encountered in weave sheds, screw machine shops and similar locations, a sound level meter used in conjunction with an octave-band analyzer is sufficient. For impact noise, such as from forges and test firing of guns, a tape recorder is used and the noise analyzed in the laboratory, employing a cathode ray oscilloscope to secure accurate results.

There seems to be little doubt that industrial noise will take its place

among the other environmental factors requiring control for the protection of the health of industrial workers. Sufficient knowledge is now available to classify, on the basis of proper measurements, many types of noise exposures as either definitely safe or hazardous.



AUDIOMETRIC TESTS provide factual data regarding hearing acuity. Tests are easily performed by non-technical personnel after suitable training.

Meeting Today's World Trade Challenge

By STANLEY E. HOLLIS, *President, American Foreign Credit Underwriters and Publisher, Exporters' Digest*

WHAT IS the present status of our world trade and the outlook for American export business? The answers to these questions concern all of us, since the jobs of more than three million American workers, including a significant percentage of those in Connecticut industry, are directly dependent on our export trade. Hence any serious decline in shipments of U. S. products to customer countries could influence the duration and extent of the prevailing "recession."

The Census Bureau estimates that overall exports from the United States last year were valued at \$15.7 billion—an all-time record. Of that amount, however, \$3.5 billion were military aid shipments. The remaining \$12.2 billion represented commercial or cash exports. In 1952 commercial exports were \$13.18 billion. U. S. imports, which provide overseas customers with most of the dollars to pay for what they buy from us, were \$10.9 billion in 1953. That left a "dollar gap" of only \$1.3 billion, and even that margin was probably offset by some U. S. exports which, though not included in military aid shipments, were in effect paid for with U. S. funds. The significance of these figures is that, in its interchange of commercial products with the rest of the world, the United States is no longer a heavy creditor nation. The gap between non-military exports and imports has been narrowing since mid-1952, due in part to the drop in our commercial exports accompanied by rising imports.

As to the export outlook for 1954, opinions vary somewhat. Much will depend on the state of American business which ties in with our continued ability to absorb high level imports. There are many who believe that this year will bring moderate gains in both exports and imports. On the more conservative side, is the recent estimate of the National Foreign Trade



STANLEY E. HOLLIS

Council's balance of payments group which forecasts that U. S. commercial exports and imports in 1954 will run slightly below those of 1953.

Overseas Buying Power Rising

One major reason for believing that commercial exports will continue to average around \$1 billion monthly is the steady rise in the gold and dollar reserves of the world's principal trading nations. This uptrend in foreign exchange holdings has been consistent since April, 1952. At year's end, the gold and dollar reserves of the rest of the world, excluding Russia, stood at some \$22.4 billion, and they are rising at the annual rate of about \$2.5 billion. Among the other factors which support the expectation of continued high-level U. S. exports are these: The pent-up demands for products which the U. S. can best supply from countries whose austerity import programs will ease as their dollar reserves improve; heavy military aid projects which will largely cushion the effects of curtailed U. S. economic assistance;

American dollar outlays for foreign travel, transportation and miscellaneous services which will at least equal the \$4 billion spent on these items in 1953; outstanding commitments for U. S. offshore procurement now stand at about \$3 billion, as against \$1 billion a year or so ago.

Trade Barriers Easing

Already the beginnings of a more liberal attitude towards dollar imports are showing up in a number of countries, including West Germany, Greece, Netherlands, Sweden, India, Australia, South Africa and Argentina.

The extent to which these and other countries let down their bars against our goods will obviously be influenced by the action of Congress in simplifying U. S. Customs procedures, in extending the Reciprocal Trade Agreements program and in giving effect to other trade liberalization measures as recommended by the Randall Commission.

Contributing also to the favorable outlook is the growing belief among foreign traders that the area of currency convertibility will be extended in the not too distant future. Western Europe and the sterling area countries are thinking in terms of freer convertibility of their currencies in the settlement of current transactions. Washington is studying the feasibility of supporting this limited convertibility with a standby credit through the Federal Reserve System. By lifting many of the existing exchange transfer restrictions, which now hamper trade, any sound move towards freer convertibility of currencies would benefit the United States as well as its trading partners abroad.

In short, today's trade picture reveals many evidences of improving conditions, signs that the free world is getting back to a more normal, healthier, better balanced situation. Inflation, which brought black mar-

kets, buying sprees and exchange crises, has been brought under control in most countries. There is reason to anticipate a progressive reduction in trade barriers.

Competition Mounting

But, gratifying as these gains are to statesmen and economists, they pose a number of immediate and thorny problems for the typical U. S. exporter. Not only are other industrial countries now less dependent on supplies from the United States, they are also extending their trade gains in many of our principal export markets, creating increasingly stiff competition for the American supplier. Being much more dependent on foreign trade than we are, the United Kingdom, Western Europe and Japan especially are doing their utmost to regain and expand their pre-war share of world markets. Germany's trade drive is being pushed so hard that it is of growing concern to Britain as well as American exporters.

Local Industry Competition

Competition from local industry in many formerly good customer countries adds to worries of many exporters. Turning out many items formerly bought from the United States and other countries, these local plants are given tariff and import licensing protection by their governments, often to the point of excluding overseas suppliers of similar items.

These are by no means new developments, but, as they spread to more countries, with the supply situation easing and the buyer's market everywhere extending, they make it increasingly difficult for the export department to dispose of its share of factory production.

Credit Terms Easing

And one of the most vexing of the export manager's headaches, just another by-product of the mounting competition, lies in the field of commercial credit. Buyers abroad, especially in Latin America and those other areas where local bank credit facilities are limited and costly, are naturally influenced in their choice of suppliers by the payment terms offered. And most of our foreign competitors, notably the Germans, use credit terms as a potent sales weapon. For example, a traveler for U. S. manufacturers of woodworking equipment and hardware tells us that on a recent trip to Mexico he was impressed with the vol-

ume of European machinery pouring into that market. European manufacturers, he says, readily ship on consignment to any well-rated distributor. They allow the distributor to install their machines in a local plant without any down payment, granting terms up to two years without any carrying charge or interest. This traveler adds: "I also found hardware items going into the large hardware stores on terms much longer than my principals would grant. For example, it's very common for the Europeans to give six months terms on hacksaw blades."

Similar stories are coming in with increasing frequency. Exporters of heavy machinery, plant equipment and other capital goods complain of desirable orders lost to their factories because European competitors grant payment terms which they cannot match—sometimes to five years.

European, Canadian and Japanese exporters are able to relieve themselves of much of their export credit risk by paying a small premium to have their receivables guaranteed by either government or private insurers—sometimes a combination of both. With these guarantees, which cover insolvency, exchange transfer and other risks, these competitors can finance their export orders on favorable terms, sometimes on what amounts to a non-recourse basis. Studies are under way by a number of U. S. trade groups to determine the feasibility of setting up similar export receivable guarantee facilities for American shippers.

To keep the record straight on this subject of credit terms, it should be made clear that many seasoned U. S. exporters have for years extended to their credit-worthy customers payment terms—usually from sight draft to 90 days acceptance drafts on consumer items, and to six months or more on capital goods—when the trade and market conditions justify such credits. And their export credit loss ratios have usually been at least as favorable as those in comparable domestic trade. In the November, 1953 issue of *Exporters' Digest*, we published the results of our fourth annual postwar survey of the credit terms being granted by U. S. exporters in principal markets and industries. This reflected a general easing of terms that has resulted from the combination of keener competition, the freer supply situation and the general betterment of market conditions. The specialized foreign credit information and service facilities maintained

by our own organization over the past thirty years, which provide American exporters with reliable data as to the character, the financial capacity and the credit worthiness of business firms in all world markets, are more widely used and are of increasing value in these times.

Constructive Factors

Without underestimating the threat of the more aggressive competition, our world market potential is such, and American industry has so many strengths on which to capitalize, that there can be no question of our ability to maintain a healthy expanding overseas business. When the export manager visits his overseas markets, he usually finds some way to deal with problems which, from a distance, may have seemed insurmountable. In most areas there continues to be a well sustained demand, often a decided preference, for American products. The amount of dollars in the hands of customer countries will, for some time to come, continue to be the principal factor governing the volume of our export sales, and, as already mentioned, these dollar holdings are rising. Although we cannot meet the cut prices offered by foreign competitors on some items, most American products will continue to sell because their demonstrated quality and serviceability make them a better value to the foreign buyer. Moreover, in western hemisphere markets particularly, U. S. manufacturers are often able to make better deliveries and they provide merchandising and service aids which are highly valued. Also, there will always be many items which U. S. manufacturers can price below competition because of lower unit costs made possible by our mass production for the domestic market.

Rules for Export Success

But, to work effectively under today's conditions, the export sales executive needs the full co-operation and support of company management at all levels. He should not be hampered, for example, by ultra-conservative, inflexible credit policies which perhaps worked fairly well in the period of wartime shortages, but which no longer are acceptable to the overseas trade. Here are a few other guiding principles, not a complete list but they typify the attitudes and the thinking of progressive, forward-looking companies which, having developed a profitable export business, intend to

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Town Meeting- FACTORY STYLE

By WILLIAM H. BAUMER, *Special Assistant to the President*
Johnson & Johnson, New Brunswick, N. J.

Editor's Note: Mr. Baumer recently addressed a luncheon meeting of more than 100 business, labor and political leaders at the Hotel Elton, Waterbury, sponsored by the Connecticut Chapter of the "Committee for Young Men In Government"—an organization which is undertaking to sponsor at local, state and national levels, a similar type of program now in effect at the company level at Johnson & Johnson. John Breckenridge, assistant to the president, Bristol Brass Corporation, is chairman of the Connecticut Chapter, and member of the national steering committee. He is currently attempting to enlist the interest of young men in forming local, non-partisan groups who will become active in educating themselves and others on what constitutes good government on all levels, and who, thereafter will seek to promote it through participation in political activity in the party of their choice. Persons interested in forming local groups may receive assistance upon request, from Mr. Breckenridge.

CITIZEN participation in our republican form of government has been a continuing challenge. The energizing impetus of the New England town meeting in Revolutionary days has been joined historically by the 19th Century cracker barrel conference at the crossroad's store. Both developments were consistent with the farmer—craftsman—shopkeeper character of our people prior to the Twentieth Century.

The social revolution of our assembly line age demands new techniques to spark citizen interest and action in government. No generally accepted solution to the challenge of our times has appeared.

General Robert Wood Johnson, Chairman of the Board of the Johnson & Johnson surgical dressing company had many times expressed his concern. "The greatest danger to freedom is apathy; Democracy can work only if the citizens take an active interest in government."

Two and a half years ago he spelled out to the executive and supervisory employees of the company what government decisions on high corporate

taxes, inflation and government regulations meant to business.

Program Launched

The challenge was taken up by a group of nine executives. They decided that a voice in government affairs was vital to their welfare and to that of the Nation. With a green light from top management, they began the search for expression. Specifically they wanted to achieve non-partisan political self-education within the plant that would result in political action in home communities.

The original group studied existing formal program for citizenship training. None was geared to the problem common to Johnson & Johnson and its Affiliate Companies where men and women work in one community and live in a dozen others.

Out of the initial discussions of the group of nine, who called themselves the Sound Government Board, came the determination to build a program that would be carried out at the plant and on company time. The decision was to make the industrial plant the town meeting of the machine age.



WILLIAM H. BAUMER

The Sound Government program was informal, voluntary and non-partisan. Groups of approximately 25 persons met under the leadership of the Sound Government Board of 15 members which represented all the Johnson & Johnson companies at more than twenty plants. The unchanged objective of the Sound Government Board was to achieve participation in government in the employees' home communities under a political party of the individual's own choice. The pilot plant operation was conducted among 1,850 executive, supervisory, technical and sales employees.

Citizen Interest Lacking

Granting that the need was vital for active work in government, the problem was how to arouse citizen interest. Evidence was gathered from political leaders regarding this question.

"Finding active volunteer citizen workers in government is more difficult than keeping the budget balanced," explained the mayor of one plant-city. Another mayor commented that he could hold a meeting in his medium-size office of all the active, voluntary participants in the government of his municipality.

In both cases the mayors were talking about year-round, patriotic citizens striving along with officeholders and public employees to improve representative government.

Checking into this lack of citizen interest members of the Sound Government group found that many writers on the subject blamed the problem on the assembly-line industrial

ABOUT THE AUTHOR

Mr. Baumer, author of this article, graduated from West Point in 1933 and served in the Army from that date until 1950, when he resigned as a Lieutenant Colonel to become special assistant to the president of Johnson & Johnson, concerned chiefly with the company's community activities.

Among the highlights of his career were: An assignment in Moscow prior to the Normandy invasion to seek Soviet cooperation on the allied plans; his work with General Eisenhower in preparing the North African, Sicilian and the Normandy invasion plans; his entry into Berlin as one of the first ten Americans after its liberation; his work in the G-3 Division in General Eisenhower's supreme headquarters supervising the policy direction of the underground in Western Europe and as chief of information in Washington, where he directed the activities of the Armed Forces Radio network, and later, as executive assistant to Undersecretary of the Army, William S. Draper, and his successor, Tracy Voohees. During the immediate post-war period he participated in the Potsdam Conference and later was chief of plans in General Eisenhower's headquarters at Frankfurt, Germany. Still later he worked with the State Department on the Italian and Balkan Peace Treaties and was deputy chief of staff of the U. S. Constabulary, policing the American Zone of Germany.

As chairman of the "Sound Government Program" launched at Johnson & Johnson in 1951, Mr. Baumer and his company's program have received nation-wide mention in such magazines as "Look," "Colliers," "Business Week" and "Tax Outlook," as well as additional publicity through radio and TV programs. In numerous speaking engagements before civic groups he concentrates on three topics: Good government is your business and mine; human relations in industry; and relations with the Soviet Union.

revolution. The hiring of professional politicians to do the job of governing replaced the active interest and participation in government of farmers, craftsmen and small businessmen of the 19th century.

What to do about it? Greater activity in government—local, state and national—was one paramount answer for business and industrial employees of the white collar group.

Members of the group readily admitted that their effort was only one solution to the problems of citizen activity in government. There are undoubtedly many others and many of them advantageous to the resolution of the central question.

Topics and Format

The Sound Government program has concentrated on subjects that are close to the interests of the membership. Topics have included: federal and state taxes and budgets, political party platforms, citizen action, forms of local government and, most recently, the New Jersey gubernatorial campaign issues.

The handling of these topics has followed the same format since the beginning of the program. Members of the Board have served as moderators of panel discussions and have selected

three panel members for each meeting. The panelists have been given 8-10 minutes for presentation of one aspect of the topic, leaving time for group discussion during the hour-and-a-half conference.

Within the 25-man discussion groups was a cross section of production, sales, merchandising, personnel, legal and accounting employees of the middle management level—ranging from assistant foreman to department heads. The membership of 750 at the commencement of the program has grown to 1,850, evidence that recognition must be taken of the revolutionary movement from the bench into industrial management which is increasing rapidly with the growth of our machine civilization.

At the panel discussions no attempt is made to arrive at conclusions. The aim is objective presentation and discussion without political bias.

Some persons within the company were concerned that the program would be decidedly partisan. However, in practice, the program has won membership approval for the way in which it has presented the point of view of both the Democratic and Republican parties.

The panel discussion meeting is the climax of what has usually been a 6 to

8 week buildup of interest and collateral information on the selected topic. The development of the topic on the forms of local government was typical of previous subjects.

Promotion Techniques

Through a weekly newsletter *Two Minutes Please!* sent to the homes of members the selected topic was announced. Succeeding issues of the bulletin concentrated on one of the three basic forms of local government: the mayor-council; council-manager; and city commission. In each case the advantages and disadvantages of each method of local government were set forth for later discussion.

Supplementing the newsletters reprint articles and pamphlet material were distributed to the entire membership. These materials were particularly selected so as to develop the *pros* and *cons* of each form of local government. Finally, last-minute information and announcement of the dates for the panel discussions in all companies were presented in the newsletter.

Meanwhile, the Sound Government Board itself with consultant advice was preparing the materials for use by the moderators and panel members. Each member of the central Board acted as moderator at two meetings and took upon himself the responsibility of gathering a panel of three persons for each meeting. "Canned" speeches were prepared as a guide for the panel members. Rarely have they been used but they provide a useful tool in meeting the average person's objection that he lacks the information to become a panel member. The topic was pre-tested, and last-minute changes made. The final move was the scheduling of meetings on company time and the naming of the panel members.

The development of the program has proved that politics need not be taboo in business. Careful planning and preparation, as in any other business activity, can obviate most difficulties in the company or plan-community.

For the local government topic the program was explained to local city officials so that there could be no misunderstanding of the objective aims of the discussion meetings within the Johnson & Johnson company. Municipal officials were invited to sit in on the panel discussions on the forms of local government and pamphlet materials sent to them.

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The Growing Need For Discovering New Markets

By ALAN R. WILSON

Alan R. Wilson and Associates, New York

TODAY the transition from defense production to civilian output is a cold reality—not only to individual manufacturers, but to entire communities as well. Getting sales volume above high breakeven points is an immediate problem for many companies. Backlogs are shrinking, and sharpening competition is whittling away at softening customer lists.

Much of the growth of industry since 1945—in many cases doubling investment in plant and equipment—has been concentrated on improvement of production efficiency. A large part of this efficiency is brought about by the investment of over 4 billion dollars annually in industrial research. Much of this research has been government-financed to expedite defense-production goals.

This research is creating an enormous supply of new products, processes and materials. At the same time, market research undertaken to find more effective ways of selling this output is lucky to get 5¢ to match the industrial research dollar.

For many industries, taking advantage of the self-generating motion of product research, reinvestment in quickly-amortized new production projects, and disposal of products in high volume to a short customer list has become a high-profit, rapid-growth formula. For some companies it has resulted in growth rates of 15-20% annually.

At the same time, less fortunate industries have seen profit margins narrow, plants become obsolete, and investment return slowly shrink. For many established companies in industries with a slowing growth rate, growth opportunities have been siphoned off by competitors invading markets hitherto untouched for decades by new competition. Even if old customers have not abandoned their suppliers, the newcomers have appropriated the new markets that presented a



ALAN R. WILSON

growth opportunity unforeseen by the older-established firms. Often these newcomers are from the high growth-rate industries who are in turn under pressure to maintain their own high rate of return on investment by new market discovery.

This unbalanced situation, created in large part by highly-organized and efficient production allied with accelerated growth has had two further effects on markets:

- 1) It hurls new products with shattering impact into relatively inflexible processing and distribution channels. For example, in a few days, small manufacturers with a few high-speed machines can turn out many products made of synthetic materials that would take weeks by the handicraft methods they have displaced. New products find their way to market haphazardly, creating price dislocations, upheavals in trade practices, and short-sighted promotion expedients that are prodigal in their confusion.

- 2) It creates an unbalance between an effective development of new products and the ability of the market to absorb them. In some fields such as the

"wonder drugs," the backfiring of new products as they hit professionally-controlled markets often has been little short of chaotic. Unfortunately, "wonder products" are not always accompanied by "wonder markets."

This unbalance is likely to create problems as long as there is a highly-organized production machine spewing forth its products into markets unorganized to absorb them. As long as the accelerants of production growth are highly organized and concentrated, and marketing is a fragmented, disorganized function, this disorganization can be increasingly perilous.

It can be expensive, too. It is not generally recognized, but an unprofitable sales dollar—on an order, an account, or in the operation of a territory—can often be traced back to account for an equal loss of a factory dollar as well.

Although we may urgently need new markets, and better methods for discovering them, we should also be more effectively organized to develop them. Growth for its own sake is bound to be hazardous when its ultimate destination is not charted with reasonable clarity.

How Are New Markets Discovered Today?

A customary procedure for discovering new markets is by gathering information from the sales staff, customers and prospects, trade papers and other friendly sources. For many sales situations, this procedure is entirely adequate.

However, such information is likely to be fragmentary in character, and unrelated to a systematic procedure for new market discovery. The information often has its basis in a narrow and specialized viewpoint that may or may not bear directly on the problem at hand—how to search out the unexpected and diverse factors that spell out both risk and opportunity in a new

market situation. Then too, new market opportunities may arise from trends that cut across departmental lines. Too specialized an interpretation may have little value as the basis for any broad management decision, particularly if the market opportunity has real size.

Inquiries produced by listings in trade directories, or through advertisements reaching prospective buyers are useful in getting clues to new markets. However, no effective set of standards has as yet been developed for screening inquiries as an effective ally of the salesman. In addition, "shotgunning" a prospective market is becoming an increasingly expensive proposition. It may also backfire by producing a temporary demand from a series of "blind-alley" markets, and subsequently tie up production facilities to the point of materially slowing down investment return.

Many procedures for getting information about markets have been developed in the consumer-goods fields. These methods usually sort out replies to "yes" and "no" categories. They are also effective in indicating simple choices as a guide in the preparation of advertising sales messages. The methods center primarily on the use of the questionnaire, distributed to a predetermined cross-section of the market. Such methods, carried to their highest degree of organization in public opinion polls, have been widely applied not only to consumer markets, but also to business, industrial and institutional markets where their applicability is more open to question.

Mass-market testing procedures are suitable when consumption is stable, widespread and relatively homogeneous. Mrs. Jones is about the same kind of customer as Mrs. Smith when she buys a cake of soap. However, under changing or unforeseen conditions, mass-sampling techniques can be as risky in predicting new product success as they have been in predicting elections. People do change their minds.

The sales force is of course one of the principal sources of new market information. However, this information may have to pass through a chain of territory salesmen, sales representatives, jobbers, local service men and retailers before it arrives at the point where it can be pieced together to tell a clear story. And sometimes this clear story may come much too late—after years of slowing sales growth.

If the sales force is relied on heavily to bring back information bearing on

new markets, there is a further limitation on the information's usefulness—the buyer's view is not likely to be sufficiently presented. The salesman's job is to get the order, and to keep the account sold. Finding out how the need for a product developed—vital information in exploring new markets—is not a matter of primary sales concern.

This point is easily illustrated. Ask any purchasing agent to describe what went on in his organization before a decision was made to buy from a specific supplier. Then ask the supplier salesman to describe why he was successful in getting the order. Two people in a single transaction, but the descriptions are apt to be of two different worlds!

Also, buyers' markets do not allow much time to be taken from present accounts that are getting closer attention and service from increasingly alert and hungry competitors. Sales procedures devised for getting the order thus have their limitations when applied to discovering new markets.

Discovering New Markets by the Use of "Informed Opinion"

A method for discovering new markets that is finding increased application in the business, industrial and institutional sales fields is by the gathering of informed opinions into case histories by a conversational sequence of questions and answers. The experience of the market investigator is pooled with that of individuals who are experts and authorities on the different aspects of the market likely to be of interest and concern to them.

This case-history development usually must be done by open interview. Informed opinion cannot be searched out by the more commonly-applied methods of random-sampling and the use of a fixed list of questions, because the informed opinion varies according to its special location. Informed opinion is also distributed with distressing irregularity throughout the population, and is apt to be biased for the very reason that it is informed.

For example, a machinist's opinion about an improperly "aged" steel casting is apt to be picturesquely biased, but it is also highly informed. Such an opinion, when needed, is difficult to search out, but it is worth the search. The unexpected, the unusual and the diverse opinions that point toward the beginning of new and vital trends must be found and given proper weight in discovering new markets.

Discovering new markets may also mean discovering new kinds of buyers. In one field made up of professionally-trained businessmen, several hundred prospective buyers for new products and new product applications were found to group into three "purchasing types." The significance of informed opinion is highlighted by the findings:

1) Approximately 40% of those interviewed were classed as "hesitant" and resistant to change to new products or new methods of application. They were also found to have a slightly declining business as a group. Only two or three were found to have a rapidly expanding business, although approximately 25% of the total businesses covered were so expanding.

2) Approximately 40% were "neutral," or "wait and see." Typically, these businesses were expanding slowly.

3) Approximately 20% of the businesses were experimentally-minded—"tell us what's new." None of this group had a declining business.

In short, to discover new markets, a growing experience shows that it is profitable to search out the informed opinions of the fast-thinking members of the business community who are interested in rapid—but intelligently-controlled expansion and who are also experimentally-minded. The best-informed, progressive and experimentally-minded people should in the long run set the pattern for your expanding sales. And it is this kind of informed opinion that will provide the clues to the diverse, unexpected factors that go to make up sales opportunity and sales growth.

How can this informed opinion be found, and the information organized and applied to achieve planned, well-sustained and profitable progress?

How to Organize "Informed Opinion" to Discover New Markets

In the preliminary stage of a search for new markets, conventional market research methods are most frequently applied, usually in the hope that sales expansion can be achieved by a limited investigation. At this stage, internal accounting and statistical reports are assembled for examination, and external guides such as government and trade reports are consulted. The opinions of departmental heads and company and supplier salesmen are also brought in for appraisal. At this "organized guesswork" stage, again the deficiencies of approach are in terms of

the limited and specialized judgments brought to bear on the new and unfamiliar situation.

However, almost any beginning assumption about a new market can serve as a starting point, whether right or wrong, provided that the assumption has a chance of correcting itself. The danger is in allowing an erroneous and uncorrected premise to become frozen into a final misguided judgment. And preconceived ideas held too long can keep the investigation from ever getting off the runway.

In this preliminary fact-finding period, informed opinion develops a definition of the market opportunity from interview to interview as the thread of the opportunity is found and traced through one set of experiences after another. For a new specialty product, drug stores may show promise, department stores rule themselves out, and supermarkets begin to look hot at this stage—and perhaps to reverse the situation a little further on. Interviews begin to strengthen each other in a widening net of information.

The total number of case-history interviews to be developed does not depend on the size of the sample, but on how strongly the people whose opinions are being sought are able to clarify their view of the market as they see it. This requires some skill of the investigator in having an informed judgment about the adequacy of the opinions presented to him. The method is not a set formula. It is somewhat of the essence that there is no set formula.

As interviews progress, certain facts and ideas tend to repeat themselves. After perhaps 20 interviews, ideas tend to group together in sufficiently clear form to indicate topics to be traced out in later interviews.

As a rule of thumb, 50 to 100 carefully-chosen and properly directed interviews will produce solutions to a wide range of marketing problems, in marked contrast to the partial solutions provided by hundreds or even thousands of superficial interviews.

For example, sales problems in the hospital field often may require such diverse viewpoints as those of hospital superintendents, purchasing agents, group insurance accountants, surgical chiefs of staff, operating-room supervisors and semi-skilled laundry workers.

No interview guide, much less a fixed list of questions, could possibly cover such diverse points of view—all important to the successful expansion of the market. Yet 50 to 75 interviews

have consistently produced solutions to sales problems in this and other fields. The open questions have averaged perhaps 50 per interview—producing a total of between 2,500 and 3,800 interrelated questions and answers.

Conversely, if 5,000 persons had been interviewed and asked a fixed list of 100 questions determined in advance by limited exploration—a total of 500,000 questions and answers—it is doubtful that the information gathered could have traced the problem to even a preliminary solution.

In the later stages of interviewing, the various influences surrounding the problem will begin to take a sharper form. Alternative courses of action will begin to appear. The light commercial market for an air conditioner will shape up as better than the industrial or the home market, for example.

At this point, there is a critical distinction between an open interview exploration of informed opinion, and a limited exploration by a fixed list of questions. The fixed list may tell only whether a given thing can or cannot be done. The replies will give only a degree of approval or disapproval; there is no way of discriminating between the quality of one opinion or another at this critical turning point.

The final stages of organization of the information for management decision again depart fundamentally from the conventional. The tabulating, cross-checking and editing of questionnaires gives way to a weighing of the ideas and evidence supporting interview after interview. At this point, telephone calls often will bring out the necessary information. Statistical proofs will suddenly become available where in the earlier stages they had hidden away in obscure files. The mysterious Mr. X who has all the answers in a given situation materializes when the basic issues becomes clear enough to justify his informed—and interested—opinion.

Analysis of the findings is a relatively integral part of the body of information as it is collected, simply because this method of discovering new markets is creative in scope and purpose. Much of the analysis has been completed in the process of tracing out the market opportunity through interview after interview. About all that is needed by way of clarifying the major points covered in the interviews can in many cases be accomplished by sorting out the facts and ideas after they have been put down on individual 3 x 5

cards.

Because the method is creative, synthesis has more weight than analysis. The infinitely rich variety of human experience has provided its own electronic calculators, and the unwired circuits of the human mind have assembled solutions infinitely more complex and subtle than could ever be uncovered by the robots of modern science.

A Case-History Application of "Informed Opinion"

This concerns a two-part problem of selling a food-packaging machine.

1) The first part concerns market definition. Normally it is prudent—and less expensive—to define the market for a proposed product as broadly as possible at the outset, and then to adapt the product to fit the market need.

In this instance—as happens in a remarkably large number of instances—the machines did not sell according to a statistical estimate of the prospective sales volume in the industry for which the machines were designed. Advance orders had been secured for 50 machines from interested prospects, and a statistical projection was made from this base to the industry as a whole. On the basis of this estimate, 325 machines were produced, achieving considerable production economy by placing the production in a single run.

However, geographical limits in the distribution that could be achieved by smaller processors in the industry, the perishability of the product, and the ability of smaller producers to use hand labor and simpler mechanical methods, resulted in a "working potential" of little more than the 50 machines originally ordered. The machine was stopped dead in its market.

In passing, a variant on the problem encountered here is the case of five competitors who independently calculated the same industry potential for a new product. Each then decided that he wished 25% of the potential as his share, and built plant capacity accordingly—125% of the original base. At the same time, unforeseen hurdles made the actual market requirements no more than 65% of the original market calculation.

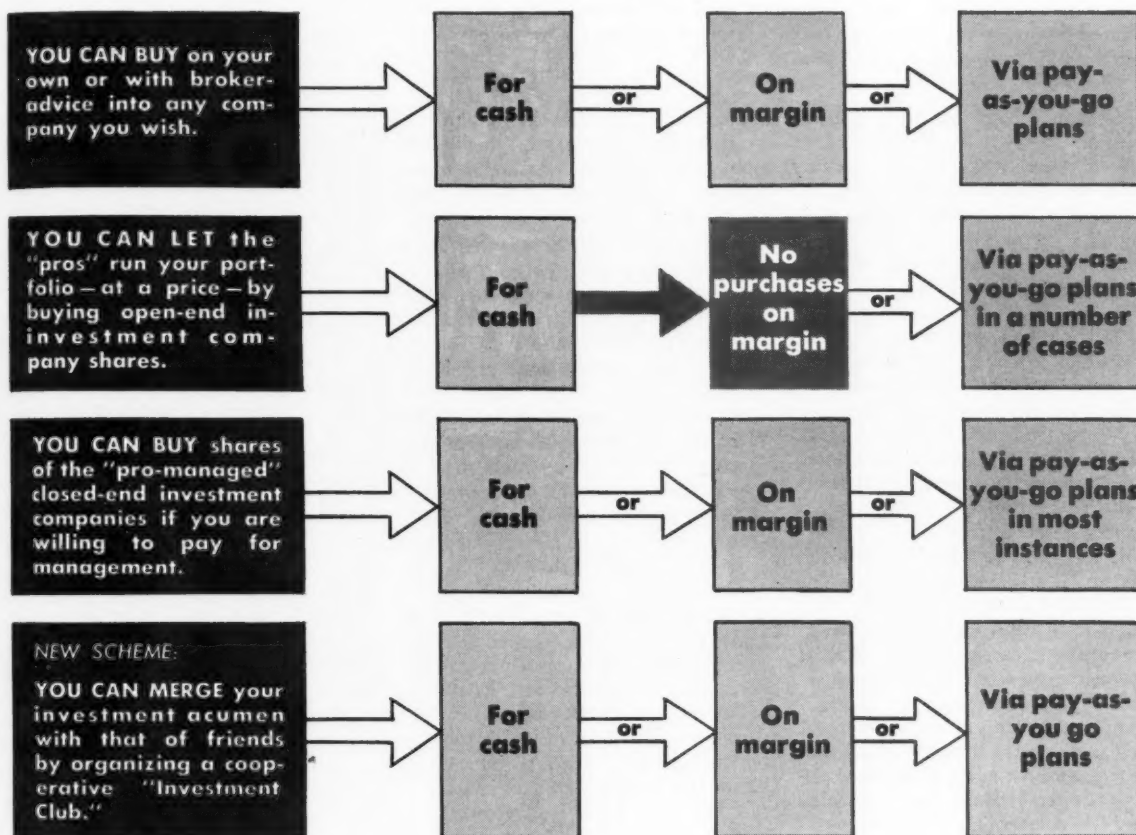
With a capacity of 125% of the calculated market, and an actual "working potential" of 65%, the result was a sort of game of musical chairs. Each manufacturer had to cut price in order

(Continued on page 41)

There Are Lots of Ways to Buy Stock:

Here's what
you can do . . . and . . .

on what terms



. . . and Lots More People to Buy Them*

IN THESE days of chubby pay envelopes and high employment, businessmen are getting questions about investing money from some once-unlikely sources. Almost anyone may sidle into the boss' sanctum to ask: "How do I go about squirreling some of my savings in stocks?"

Nowadays it's a snap to tell the would-be investor the mechanics of his new avocation. As the tabulation above shows, the modern woods are full of ways in which the little shot can invade the stock market. It may be tough—or risky—for the boss to tell him what to buy, but it's easy as

pie to tell him how.

Margin—The market neophyte does not even have to have the full price of his heart's-desire share. With no trouble at all he can arrange to buy on margin up to the legal limit of 50% cash down. The only exception to this are the shares of the open-end invest-

* Reprinted by special permission of the publishers from January 23, 1954 issue *Business Week*.

Editor's Note: If every employee in business, industry, agriculture and the professions, had a direct financial stake in American enterprise through stock ownership, and could be induced to become as familiar with the company policies and earnings potentials of companies in which he holds stock as he is expert in the strategy and potential winning possibilities of his favorite baseball clubs, there would be little need for other educational campaigns to explain and sell the American capitalistic system. This article is being reprinted with permission of the publishers of "Business Week" from its January 23, 1954 issue, in the hope that it will encourage employers to promote employee investment in American enterprises by telling them how such an investment program may be started rather than indulging in the dangerous practice of recommending the purchase of specific stocks.

ment funds, which are never sold on margin.

Four main methods of picking stocks are open to the newcomer:

He can, if his nerves are up to it, rely entirely on his own investment "touch" for selecting stocks—and deciding when to get rid of them.

He can rely, wholly or in part, on his broker's advice.

He can, in effect, hire the services of professional money managers, by sticking to investment trust shares, be they open-end or closed-end. The funds add up to cooperatively owned portfolios, run by experts for the benefit of the shareholders. But the expert services are never free.

He can gang up with his friends to form an "Investor Club," which is one of the latest financial gimmicks. The club is really a privately owned investment trust. It can hire pro advice, or rely on the pooled acumen—or intuition—of the members.

These entrances to the investment world are open to him whether or not he lives within trading distance of the major Streets—Wall, State, LaSalle, and Montgomery. He's sure of a welcome from any of the brokerage houses and security dealers that dot the U. S. landscape.

The Posers—So far, the boss has had no trouble in explaining things to the employee, standing so eagerly with his investment money clutched in his hand. But trouble is likely to follow, when he pops the danger question: "And what stock shall I buy?"

At this point, the wise boss takes to the tall grass. Investment counseling is no part of his function; one wrong guess, passed on to a market tyro, may wipe the poor fellow out, and make the boss a mortal enemy. The boss doesn't have to clam up completely, of course. Here are some ways to be helpful but safe.

Start in by telling the beginner to get his own bank to recommend a re-

liable broker, don't do the recommending yourself. Then comes the ticklish job of finding out whether the new investor really knows what he is getting in for.

Protected—Find out whether he is really able to face the perils of owning stock. Plenty of people aren't. Most smart Wall Streeters will tell you that the average person should stay out of the market, even on a pure cash basis, unless he already has enough insurance, cash, or government bonds to carry his family through such private disasters as expensive illness, loss of his job, or even the cutting off of overtime pay to which he has grown accustomed.

If the investor passes this test, try to make sure that he isn't getting into the market just for the ride. Just in case his future broker forgets, hammer into his head the historical fact that over the long run he will always do better in good stocks bought for cash than on speculative issues picked up on cash or margin in the hope of a killing. Of course, there's a fine chance that he won't follow this advice. But give it anyway, you'll sleep better at night.

Open-End—If your inquisitor keeps on swinging, the next question will probably be: "Should I do my own trading on my broker's advice, or should I buy investment fund shares. That's a tough one; even in the Street there are two diametrically opposed schools of thought. Probably, your best out is to give him the arguments dished up by both sides.

The investment fund men say they can do a better job, and they cite the record book in support. A number of brokers on the big exchanges agree. Many of them even have departments that sell nothing but open-end fund shares.

Lined up against them are a hard core of old-line brokers, including one

of the biggest investment houses. These brokers think their own experts can do as good a job of counseling, and charge less for it. Thus one old-timer advises beginners to grab American Telephone & Telegraph shares. He argues that few trust shares of late have offered a more liberal or better secured return, or have performed as steadily in price.

Choosiness—The merits of different investment media are something the fledgling investor is going to have to decide for himself. On the results, it's simply a matter of what particular shares, individual or investment trust, are held at a given time. Last year, many individual shares, and many investment trusts, performed better than the average of the market. Generally, you have to be just as selective in picking an investment trust as in choosing a company stock, for they vary just as widely over any test period.

It's easy to see why. The 100-odd open-end funds on sale now have widely different investment targets. Some concentrate exclusively on common stocks, or preferreds, or bonds. Others use a shifting mix of all three. Some confine themselves to the issues of a single trade, to high-grade or low-grade shares, even to companies in a single region.

By the same token, different funds are aimed at different types of investors. Some woo people who want high income, others hunt seekers for swift, or slow, capital appreciation.

One point that should be made to the undecided investor is the cost of the open-end fund shares. Normally, you have to pay their current liquidating value plus an 8% loading charge. Although the loading charge is round-trip—you can redeem the shares without paying a fee—the total costs still are well above the trading charges on Big Board stocks, except in extremely small lots.

The purchase price isn't the only cost of an open-end share. There's a running charge for management services, usually around an annual 0.5% of portfolio asset value, and this often absorbs as much as 15% of a fund's yearly investment income.

Closed-End—There are many resemblances and some differences between the open-end funds and the closed-end companies. The latter operate with fixed capital, and are not constantly selling new shares. Moreover, most of the big closed-end outfits have

their shares listed, which means that you have only to pay the regular Big Board trading commission. It is true that on occasion you may have to pay more than liquidating value to buy into some of them; often, however, you pay less.

Systematic—New and small investors should definitely take a look at some of the systematic programs for buying stock that are now operated by brokers, in cooperation with the New York Stock Exchange and some of the open-end funds. For one thing, such programs permit dollar-averaging, the investment formula now popular with big stock buyers such as pension funds, investment trusts, and the like. The system calls for sinking a set amount of dollars at regular intervals in stocks that look good for the long haul. The books show that this irons out many of the price hills and valleys over which even good stocks seem to travel through the years.

Some of the systematic deals can involve surprisingly high costs. Thus the Stock Exchange plan slaps buying charges of around 6% on items of less than \$100. The open-end plans run high in costs if you decide to pull out after a year or so.

Investor Clubs—The newest gimmick of all is the Investor Club, where investment-minded individuals pool their funds on the same principles as the big investment trusts. The number of such clubs has been skyrocketing, according to Raymond Trigger, managing editor of a Wall Street bible—the weekly *Investment Dealers' Digest*—and a close student of the trend.

Trigger says that more than 500 of the clubs were operating recently, formed by women's club members, factory and office workers, policemen, magazine editors, advertising executives, and even stock brokers. Most of the clubs have stuck to better-grade stocks, notably in the growth field. But a few, belying the proud title of Investor, have been set up just for flyers in highly speculative stocks.

Some of the group have incorporated, Trigger says, to protect individual members. Others use the partnership formula. Virtually all of them agree on one point: It's best to have a lawyer draw up the bylaws, and it's nice to have a lawyer for a member.

The polls are still open on what size membership is best. Generally 15 to 30 has proved handiest so far, with a maximum of diversification in the careers of the members.

Above all, it's essential that all members keep up their stipulated monthly payments. Most clubs use dollar averaging, which just can't be done unless the income flows evenly.

Meeting Today's World Trade Challenge

(Continued from page 13)

continue building it, in the face of any competitive challenge:

1. Restudy your foreign markets and their possibilities, immediate and long-range. Within recent years, so many changes have taken place that your attention can no longer be confined to those markets which up to now may have accounted for the bulk of your exports. Careful re-examination may change your thinking as to where your best opportunities really lie. Then you can direct your major selling and promotional efforts to those areas, not dissipate them on unproductive territory. Keep informed regarding dollar credits and grants to other countries through FOA and other U. S. Government agencies. A case in point is Spain, long a dormant market where dollars now being spent for bases will stimulate commercial demand for a wide range of American products. In each market, try to build the strongest possible distributor organization. Always the caliber of your local representation will be the key to your success in the market. Be sure that each representative effectively covers the territory assigned to him—then do your part in backing up his efforts.

2. Do all you can to tailor your product to the market. Even a minor variation in your standard product, or in its finish or packaging, to meet local preference or perhaps to conform to import licensing or tariff regulations, may greatly enhance its acceptability.

3. Go over your price structure with a view to eliminating items which are not properly export costs. Though quality rather than price may be your main appeal to the customer, the price differential should clearly justify the superior value. Regardless of durability or other considerations, the lower priced product will always have powerful buyer-appeal, especially in the poorer, low-income markets.

4. In countries which can pay for imports only in soft currency, yet which have good sales potentials for your line, explore the possibilities of doing business by means of triangular

or clearing deals. Also known as switch currency, arbitrage, or compensation arrangements, these sometimes make possible the entry of American products into otherwise closed markets. Space limitations preclude a more detailed discussion here of this type of financing, but reprints are available of two articles which appeared in *Exporters Digest*—"Exporting Against Soft Currency Payment" by Walter V. Steiner, in the March, 1953 issue, and "Clearing Funds Help Move Export Goods" by Frederick Bleibtreau. Any interested reader may have copies on request.

5. When, because of local industry protection or for some other reason, you are no longer able to ship to a market which offers you a good sales potential, give thought to the possibilities of local manufacture, assembly, packaging or whatever may be necessary. Without investment, by licensing a reliable and competent local manufacturer to turn out all or part of your line, you may get a satisfactory return in the form of royalty or similar payments. Through these licensing agreements, many U. S. manufacturers not only keep in touch with what would otherwise be closed markets, but are even able to make some direct shipments of components and products which cannot be made by the licensee.

6. See if there may not be need for a thorough overhaul of your export merchandising, advertising, sales promotion program, to gear it to today's market tempo. The best sales and service aids you can give to those who sell your products overseas will always be a good investment. If your line is a technical one, certainly your overseas distributors and users are entitled to the same engineering service as their counterparts in this country, and you benefit by seeing that they get it. Encourage visits to the factory by overseas sales and service personnel, to imbue them not only with the know-how but with the real spirit of your organization. Export sales and service personnel should spend enough time in the field to keep abreast of fast-moving developments which affect your interests. Needless to say, it now becomes increasingly important to carefully attend to such details as the handling of export correspondence, keeping local representatives well supplied with catalogs and sales literature, preferably in their language, and doing all else you can to help them in pushing your line.



THE MAN WHO DIDN'T WANT A "WOMAN'S JOB"

Before Stanley R. lost his left arm he was the kind of a guy who took pride in a good day's work and a man-sized job. And *after* his accident he was exactly the same guy. Not afraid of work.

When Stan came to the Liberty Mutual Rehabilitation Center to get fitted with an artificial arm and to be trained in using it, he had one special worry. It was the fear of being put on a "woman's job" — as he put it.

The people at the Rehabilitation Center understood Stan's feeling, knew what to do about it. Teaching people to rebuild bodies and regain skills is only part of their work. They outlined the problem to Stan's employer — then two specialists took

a trip to the plant and made a job analysis.

Those Liberty Mutual specialists found *six* jobs that Stan could handle very well. Important jobs. Man-sized jobs. And after spending a month and a half at the Center, Stan went back to take his place as a highly productive worker.

Rehabilitation is only one part of Humanics — the Liberty

Mutual program that makes money for any employer. Not only does Humanics lower insurance costs — it also reduces the uninsured cost of accidents. Humanics actually increases profits.

For information, call the nearest Liberty Mutual office, or write to us at 175 Berkeley Street, Boston 17, Massachusetts.



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NEWS FORUM

This department includes a digest of news and comment about Connecticut Industry of interest to management and others desiring to follow industrial news and trends.

JOHN E. SCULLY, treasurer and vice president in charge of finance at the Bostitch, Inc., Pawcatuck, died recently at his home in East Greenwich.

Mr. Scully was widely known in the wire stitcher and stationery industry, and was a leader in fraternal and civic affairs of East Greenwich. He was associated with Bostitch for 30 years in the executive capacities of office manager, comptroller and treasurer.

★ ★ ★

THE SIKORSKY AIRCRAFT CORPORATION and its founder, Igor Sikorsky, were honored by more than 250 at a "welcome home" dinner recently, sponsored by the Stratford Chamber of Commerce.

Highlighting the festivities was the presentation to Mr. Sikorsky of a plaque inscribed "To Igor Sikorsky in Recognition of His Vision and Inventive Genius; His Admirable Humanity and His Proud Recognition of the Spiritual Values." The presentation was made by Raymond J. O'Connor, Chamber president.

Joining with the Chamber members and guests to pay tribute to Mr. Sikorsky were Stratford Council Chairman D. James Morey, Arthur Clifford, president of the Bridgeport Chamber of Commerce; Dudley Jewell executive vice president of the Bridgeport Chamber, officials of the Lycoming division, Avco Manufacturing Company; Brig. Gen. George C. Stanley, representing Governor Lodge; and C. J. McCarthy, vice president of United Aircraft Corporation.

★ ★ ★

FINAL RESULTS in the 18th semi-annual inter-plant accident prevention contest of the New Haven Safety Council have been announced by William A. Flint, industrial vice president of the Council.

The participating plants in the six months of activity worked a total of 16,713,156 hours, with a total of 129 lost-time accidents and a resulting frequency of 7.7 accidents per million man-hours worked.

For plants operating over 600,000 hours, first place went to Sargent and Company, Rockbestos Products Corporation lead the group working between 300,000 and 600,000 hours. The Andrew B. Hendryx Company finished in first place in the group operating between 100,000 and 300,000 hours, and among the smaller plants,

The Cover



THIS MONTH'S COVER PHOTO shows the internal parts of Size 300 Waterbury Pump, manufactured by the Waterbury Tool Division of Vickers, Incorporated, Waterbury. This is the largest oil hydraulic pump ever built. This photo shows the fit of the valveplate face to cylinder barrel face being checked. The parts, top to bottom, are the main shaft, cylinder barrel and valveplate.

New Haven Trap Rock Company and the New Haven Towing Company completed the six months period with a clear record.

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PATRICK J. DWYER, Stonington, has been appointed plant manager of the Metalmold Corporation, Groton, a subsidiary of Arwood Precision Casting Corp., Brooklyn, N. Y. Mr. Dwyer replaces Henry D. Bryk, who will be assigned to new duties near Los Angeles, California, where Arwood is planning to establish another subsidiary.

Mr. Dwyer began with Arwood as a general accountant in 1950. In the past years he has served as office manager, plant treasurer and more recently as production manager.



EVARTS C. STEVENS, SR., chairman of the board of the International Silver Company, has been named Wallingford's outstanding citizen of the year 1953 by the Sgt. Leonard Golub Post 434, Jewish War Veterans.

In receiving the Citizen of the Year award Mr. Stevens joins a list of distinguished Wallingford men who have been selected by a non-political, non-sectarian group of judges. This is the sixth consecutive award presented by the organization, which instituted the annual presentation as a remembrance of Pearl Harbor Day.

Mr. Stevens, who represents the third generation of silversmiths, began his career with the company as a foreman in 1906. He became successively assistant superintendent, factory manager, director of the flatware division. He was elected vice president of the firm in 1929, and chosen to serve as president from 1935 to 1951. He has served as chairman of the board since 1951.



THE H. & O. CHAIN MANUFACTURING CO., INC., Norwalk, has been purchased by the Turner and Seymour Manufacturing Company, Torrington. The company's machinery and equipment has been transferred to Torrington, where it is being incorporated into the company's other manufacturing activities.



PRESS, RADIO, television and business executives participated recently in a tour of the United Illuminating Company's recently-completed generating unit at English Station.

The entire process that takes place from the entrance of coal supplies into the unit's gigantic bins, to the production of electricity by the plant's mas-

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Planing, Boring, Turning
Cincinnati, Lucas and Bullard
Machines

We build Special Machinery
and Parts

Welded Fabrications
We will do your Stampings and
Spot Welding
Progressive — Swedging
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Short Runs — Long Runs

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SWAN TOOL & MACHINE CO.**
30 Bartholomew Avenue
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sive new generator, was described to the visitors.

In a message of welcome, William C. Bell, president of the company, described the UI as the "power house for industry." He told of the sweeping strides made since the 1920's when English Station was founded.

★ ★ ★

AT THE ANNUAL MEETING of the Clock Manufacturers Association of America, Inc., held in New York recently, Joseph T. Ingraham of The E. Ingraham Company, Bristol, was elected president. Charles E. Somers of the Seth Thomas Division of General Time Corporation, was named vice president. Mr. Ingraham succeeds Othniel G. Williams, president of The William L. Gilbert Clock Corporation.

★ ★ ★

THE PLUME & ATWOOD MFG. CO., Waterbury, has announced the assignment of new duties to three sales department executives in the Fabricating Division.

C. Wayne Clark has been named sales manager of the Lamp Parts Division, with headquarters in the company's New York sales office. Arthur J. Wallack has been named export manager, and Edwin S. Hunt, Jr., assumes charge of sales of burners and oil lamps, with headquarters in the main offices of the company at Waterbury.

★ ★ ★

APPROXIMATELY 40 per cent of the 7,000 employees of the Scovill Manufacturing Company's three Waterbury area plants will receive three-week vacations during 1954, it has been announced by Alan C. Curtiss, vice president. These 2,900 employees have completed 15 or more years of continuous service with the company.

The firm, America's oldest brass company, gives one week's paid vacation after three months of employment, two weeks paid vacation after five years and three weeks after 15 years of service.

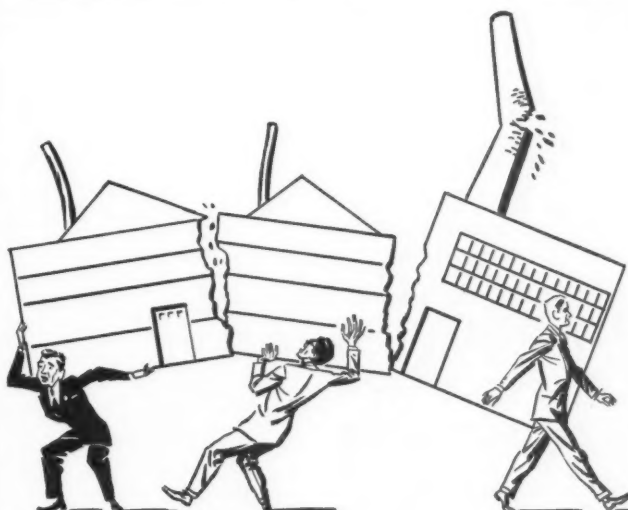
★ ★ ★

COMPLETE CONTROL PACKAGES, individually designed for specific furnace, oven, kiln or dryer applications, are now available from The Bristol Company, Waterbury. Ten separate packaged systems are offered, enabling a designer with a particular heating problem to select a complete control system engineered to satisfy his particular requirements.

These Bristol-Beck control packages are designed to operate on-off or proportional fuel valves or electric contacts, in a variety of control systems, including proportional, proportional-input, on-off, or time program, automatic reset is also said to be available.

THE CONTROLLING STOCK interest in Liberty Watch Corp. of New York has been purchased by Gilbert International, subsidiary of The William L. Gilbert Clock Corporation, Winsted.

Gilbert's entry into the low priced



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wrist watch field is expected to bring no immediate change in basic policies or operation of Liberty Watch Corp., which continues to function under its original name. The management will be strengthened by the addition of executive personnel and direction from the Gilbert organization, one of the country's leading clock manufacturers since its establishment in 1807.

★ ★ ★

A RECOMMENDATION that the 17,000 American Legion Posts lay the groundwork "for civilian helicopter transportation in their respective communities," has been made by Charles H. Kaman, president of The Kaman Aircraft Corporation, Bloomfield.

Young Presidents' Organization. Mr. Sloan became president of the Hartford concern in 1952 at the age of 37.

All members of the organization, now numbering 600 in 40 states and one province, similarly became top executives of large corporations before reaching the age of 39.

★ ★ ★

DIRECTORS of Scovill Manufacturing Company, Waterbury, have elected a new member to the board and made three executive appointments, it has been announced by L. P. Sperry, president.

Sherman R. Knapp, president and director of the Connecticut Light & Power Company, Berlin, was named



FIFTY YEARS and a day after the Wright Brothers made historic first powered flight, the new Sikorsky-built Marine XHR2s made its first test. Shown here in a profile view, the new helicopter is capable of speeds exceeding 150 miles per hour, and is capable of carrying 26 fully-equipped troops.

Speaking before the National Security Commission of the American Legion in Washington, D. C., recently, Mr. Kaman pointed out that helicopters today are doing all sorts of transportation, industrial and agricultural jobs and that in the years to come we will see the operations greatly expanded and multiplied, and many new jobs added.

Mr. Kaman, who is chairman of the Aircraft Industries Association Helicopter Council, said, "All of us can and will benefit from the helicopter's ability to add to the economic strength of our country and to better our way of life."

★ ★ ★

HARRY E. SLOAN, JR., president of Cushman Chuck Company, has been elected a member of the exclusive

director, succeeding the late Lester J. Ross.

Executive changes with respect to the affairs of two divisions include Garvin A. Drew as vice president and George W. Gross as assistant vice president of the A. Schrader's Son Division, Brooklyn, New York, and George W. Young, assistant vice president of the Oakville Company Division, Oakville, Conn.

★ ★ ★

AT A MEETING of the Board of Directors of the R. Wallace & Sons Mfg. Co., H. Stuart Stone was named president to fill the vacancy caused by the recent resignation of William W. Rich, according to a statement released by Donald W. Leach, chairman.

Mr. Stone, a native of Massachu-



H. STUART STONE

setts, is vice president of Ditto, Inc., of Chicago. He is a veteran of World War II, having served as a commander in the U. S. Navy from 1942 through 1945.

★ ★ ★

A TWO-PAGE bulletin listing furnace and oven control instruments which are carried in stock has just been published by The Bristol Company, Waterbury.

These stock instruments include indicating pyrometers and controllers for permanent mounting or portable use, indicating thermometer controllers, traveling oven recording thermometer and Pyrotrol combustion safeguards. Other control accessories, such as thermocouples and protection tubes, are also shown. The bulletin, No. P1262, is available on request from the company.

★ ★ ★

ALFRED J. PORTER, manager of the Bridgeport plant of the Heppenstall Company, has been elected a vice president of the parent firm in Pittsburgh.

Mr. Porter will continue as manager of the Bridgeport factory, which was established in 1883 by the Bridgeport Forge Company. The plant is the largest open-die forging works in New England and since 1910 has been operated by the Heppenstall Company, a Connecticut corporation wholly owned by the Pittsburgh firm.

★ ★ ★

THE VALUABLE CONTRIBUTION made by members of the Jewel Club of the United Illuminating Company toward the progress of the com-

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Take this case for example:

IT TOOK plenty of engineering as well as rigging equipment and "know how" to move this altitude chamber from the Bethlehem Shipyard in Quincy, Massachusetts, to the Pratt and Whitney plant in East Hartford. This machine measures 13 ft. 7 ins. in diameter and 46 ft. 10 ins. in length. It weighs 52 tons.

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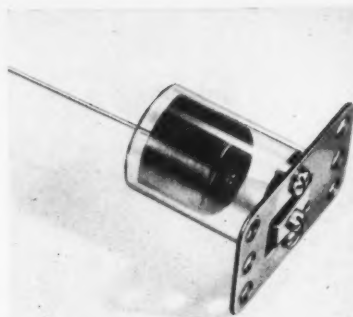
pany, was stressed by William C. Bell, president of UI, speaking at the 12th annual dinner meeting of the organization recently. The club is made up of UI personnel who have had at least 25 years of service with the company.

In his message, Mr. Bell said, "The skill and experience placed into the company by Jewel Club members, over the years, are values that make it possible for UI to better analyze the present and better plan for the future."

★ ★ ★

A NEW PRECISION air-damp dashpot for use as a system stabilizer in control mechanisms and switchgear, is now available from Electric Regulator Corporation, Norwalk, manufacturers of Regohm voltage regulators.

The dashpot is said to eliminate roundabout solutions for mechanical damping and shock absorption. Possessing the reliability of springs, it can be used where simple airvanes are inadequate, oil seal devices insufficiently reliable and magnetic damping too heavy. It is made of low expansion glass cylinders and graphitized carbon



NEW PRECISION air-damp dashpot, manufactured by Electric Regulator Corporation, Norwalk, is used as a system stabilizer in control mechanisms and switchgear.

pistons, ground and fitted to tolerances closer than .002".

★ ★ ★

THE SESSIONS FOUNDRY COMPANY, a 75-year-old Bristol industry, ceased its foundry business operations in February. According to Edwin S.

Sessions, president of the company, the final decision to cease operation of the foundry business was reached because, in the past few years, there has been a noticeable change in foundry operations. Mr. Sessions said that the type of castings needed in the business has changed in character, many companies having replaced the cast iron with steel stampings, aluminum, weldments and plastics.

The Sessions Foundry Company will continue as a corporate business. For the time being it will be in the real estate business of leasing the 12 foundry buildings.

★ ★ ★

THE AIRCRAFT PRODUCTS DIVISION of Manning, Maxwell & Moore, Inc., Stratford, will occupy a new 50,000 square foot building to be built in Danbury this year, Henry S. Moore, manager of the division, has announced.

"The continued rapid increase in the acceptance and use of our aircraft products and the continuing development of additional related lines, is

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making it necessary for us to expand and separate our facilities for these products. Contracts for purchase of the land have been signed and we hope to start construction shortly," Mr. Moore said.

The Aircraft Products Division manufactures such products as turbo-jet engine temperature controls, pressure switches for rocket, jet engines and airframe applications, jet engine afterburner control systems, hydraulic valves and thermocouples, and conducts extensive research and design projects for aircraft engine control components.

★ ★ ★

WINNERS of the Safety Contest of the Stamford-Greenwich Industrial Safety Council of the Stamford-Greenwich Manufacturers' Council were announced recently by the Council.

First place was taken by Charles H. Phillips Co., which showed an 18.3 per cent improvement accident rate over the average for 1953. Second place was awarded to Schick, Inc. for a 14 per cent improvement, and third place to Peabody Engineering Corp. with an 8 per cent improvement.

★ ★ ★

FUTURE PLANS and current production policies were discussed recently by key officials of the Underwood Corporation's principal plants in Bridgeport, Hartford and Burlington, New Jersey, at a conference in the firm's Bridgeport offices.

The all-day session was called to consider manufacturing and production plans and policies following the recent debut of three new Underwood products, according to L. C. Stowell, president. D. J. Crombie, director of manufacturing, called the round-table meeting, one of a series designed to

keep manufacturing executives in close intra-plant liaison and abreast of developments in the office equipment industry.

Underwood unveiled a new standard typewriter, the "150," a multiflex quiet model adding machine, and a new payroll accounting machine in January at nationwide sales meetings.

★ ★ ★

IRVING M. FELT has been elected chairman of the executive committee and a director of the New Haven Clock and Watch Company. Mr. Felt is chairman of the executive committee of Graham-Paige Corporation and of Childs Company, and chairman of the finance committee of Sterling Engine Co., Buffalo.

★ ★ ★

THE DEVELOPMENT of a new high temperature ceramic-type brake lining material has been announced by Clyde S. Batchelor, director of research and development, Raybestos Division, Raybestos-Manhattan, Inc., Stratford.

This novel material—now in the pilot production stage—was developed primarily for stopping the present giant-sized airplanes which land at speeds over 150 miles an hour. Several trial orders have been received from airplane brake manufacturers.

Raybestos has been the pioneer in this type of development, with all of the research having been conducted under R. Edward Steck and Larry Hower, Jr., in the Stratford laboratories.

★ ★ ★

S. W. FARNSWORTH, chairman of the board of the Torrington Manufacturing Co., producer of air impellers, spring coils and auxiliary mill ma-

100

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chinery, has announced the completion of a new Oakville Ontario, Canada plant for the company's wholly-owned subsidiary, the Torrington Manufacturing Co. of Canada, Ltd.

Mr. Farnsworth said that the new Canadian plant will help make Torrington's complete line of fan blades and blower wheels available to Dominion customers.

★ ★ ★

TWO NEW ADHESIVES for use in bonding cellulose tri-acetate film have

been developed by Polymer Industries, Springdale, makers of industrial adhesives and textile chemicals, it has been announced.

Development of the two adhesives was undertaken by Polymer chemists recently because of the increasing use of high acetyl film in packaging, publishing and safety film manufacturing.

★ ★ ★

SCOTT SIMON, chairman of the board of the Carlyle-Johnson Machine

Co., Manchester, recently celebrated his fiftieth anniversary with the company.

A native of Youngstown, Ohio, Mr. Simon was first employed as a junior bank clerk there. His next position was with the Wilkoff Brothers, iron and steel shippers. He joined Carlyle Johnson in 1904 as an accountant. He was later appointed treasurer and general manager, and in 1920 was named vice president. In 1928 he became president, a position he held until he purchased the firm in 1942.

Active management of the company is now under the leadership of his son, Frank R. Simon.

★ ★ ★

ANNOUNCEMENT has been made by R. H. Damon, chairman of the board of directors of the Eagle Lock Company, Terryville, of the appointment of S. L. Mastorgi as vice president and general manager of the firm.

Mr. Mastorgi has been associated with the company since 1941, when he became the company's comptroller. He has served the firm in several official capacities, and immediately prior to his new appointment was secretary-treasurer.

★ ★ ★

GROSS REVENUES of Pitney-Bowes, Inc., Stamford, reached record levels in 1953, and net profit was the second highest in the company's history, according to Walter H. Wheeler, Jr., president.

Gross income from products sold and rented and services rendered amounted to \$32,811,928, an increase of 7 per cent over the gross of 1952. The year's profit before taxes amounted to \$4,712,096, compared with 5,066,148 in 1952. Net profit was 1,809,096, compared with 1,608,148 net of 1952. The increase of 12½ per cent in the net resulted from an improvement in the company's Excess Profits Tax base, plus the availability as a tax deduction of depreciation previously taken on the company's books, but only now allowable for income tax.

★ ★ ★

ROBERT G. ELY, sales vice president of The Connecticut Light and Power Company, died suddenly at his home in Farmington recently, of a heart attack. He was appointed director of sales for the company in 1951,



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and was elected vice president in charge of sales a year later. Before joining CL&P three years ago, he had been assistant manager of industrial power sales for the Public Service Electric and Gas Company of New Jersey.

A graduate of the School of Mechanical Engineering at Cornell, Mr. Ely has been active in utility sales work for 25 years. At the time of his death he was a member of the Rate Research Committee of the Edison Electric Institute and chairman of the Connecticut Farm Electrification Council.

★ ★ ★

BERNARD C. LINDBERG, president of The Carlin Company of Wethersfield, manufacturers of U. S. and Carlin Oil Burners, left recently via KLM Royal Dutch Airlines for an extensive European trip to discuss European sales of U. S. Oil Burners and products with present established distributors, and to visit distributors who have shown great interest in handling U. S. Oil Burners abroad.

In order to meet the increasing demand for U. S. Oil Burners, and as evidence of their faith in the steady demand for oil heat in the industrial and consumer markets, The Carlin Company recently purchased land on the Silas Dean Highway in Wethersfield, where they will erect a large new plant.

★ ★ ★

TWO OF THE OLDEST NAMES in hardware manufacturing will now be associated, through the purchase by The Collins Company, of Collinsville, of The Henry Cheney Hammer Corporation, of Little Falls, New York.

The Collins Company, organized in 1826, is known throughout the world as one of the leading manufacturers of machetes and axes. The Henry Cheney Hammer Corp., established in 1836, makes a complete line of hammers, including the nail-holding hammer, popular with carpenters and industry.

H. Bissell, Carey, president of The Collins Co., has announced that operations will be continued at the Little Falls plant until plans can be completed for moving the hammer manufacture to the parent plant in Collinsville.

★ ★ ★

METTLER MACHINE TOOL, INC., New Haven, has announced a new folder, bulletin No. 58, on their

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line of Shuster Constant Speed Automatic Wire Straightening and Cutting Machines, ranging in capacity from .025" to 1/2" diameter wire.

Copies of the booklet may be obtained from the company.

★ ★ ★

GEORGE C. HOLT has been appointed general sales manager of Waterman Pen Company, Inc., it has been announced by Frank D. Waterman, president.

Mr. Holt was formerly vice president in charge of sales of Sheaffer Pen Company.

★ ★ ★

THE OUTRIGHT PURCHASE of the Modern Tool Company, Berlin, by The Nelco Tool Company, Manchester, has recently been announced.

The Berlin plant will continue to manufacture and market the present line of Modern Tools under that name, and will be known as the Modern Tools Division of the Nelco Tool Company. It will continue to produce high speed steel forged tools, high speed steel and carbide tools and milling cutters and milling machine accessories, tools to complement and round out the broad line of carbide tipped tools now manufactured and sold nationally by the Nelco Tool Company.

Thomas Hollis, vice president and general manager of Nelco, has appointed William A. Coe as general manager to direct operations at the new Berlin plant. Hans Nelson, former president of Modern Tool, will serve the company in an advisory capacity.

★ ★ ★

A GOLD WATCH with an appropriate engraving acknowledging 25 years of service will be awarded by Pratt & Whitney Aircraft to all present and future members of the company's Quarter Century Club, William P. Gwinn, general manager, has announced.

The watches will replace the Quarter Century pins that have been presented since the formation of the club.

Quarter Century membership totals 187, ten of whom are retired employees.

★ ★ ★

JOHN W. DOUGLAS, president of the Republic Foil & Metals Mills, Inc., Danbury, has been named to a four-man business executive team which

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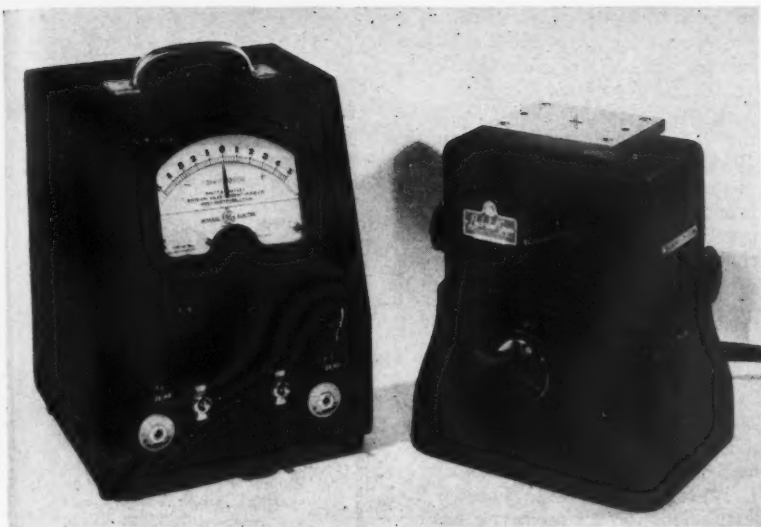
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THE PRATT & WHITNEY Model D Universal Internal Comparator.

will visit Italy in March and April to advise businessmen there on the advantages of American production and management methods.

The team was selected by the Council for International Progress in Management, operating under contract to the Foreign Operations Administration on a program designed to inform European industrialists how American methods can increase productivity, raise living standards and create domestic markets.

★ ★ ★

RALPH A. POWERS, president of the Robertson Paper Box Company, Incorporated, Montville, was elected to this position for the 34th consecutive year at the annual meeting of the company's board of directors.

The meeting, held at the company's main offices at Montville, also resulted in the reelection of Edward J. Bonville and Philip L. Caldwell as vice presidents, and Robert L. Page as secretary-treasurer.

The Robertson Paper Box Company, which recently celebrated its 100th anniversary, has manufactured paperboard at Montville continuously since 1850, and has produced folding paper boxes since 1895. A recognized leader in the packaging field, the firm maintains sales offices in Boston and New York, employing in excess of 300 people at its manufacturing plant in Montville.

A NEW Electrolimit Universal Internal Comparator has been announced by Pratt & Whitney, Division Niles-Bement-Pond Company, West Hartford, and will be introduced at the American Society of Tool Engineers show in Philadelphia this month.

The instrument has been designated the Model "D" and is designed for extreme accuracy in the checking of internal diameters from 1/16 inch to 1/4 inch inclusive. It can also be used for checking roundness and taper in addition to diameters.

★ ★ ★

THE NAPIER COMPANY, Meriden, manufacturers of fashion jewelry, and gift silverware, has instituted a retirement and pension plan for all its employees, including its sales force, according to an announcement by James H. Napier, president.

Under a trust fund with the Chemical Bank and Trust Company, New York, the firm will annually set aside funds for the benefit of its employees. Retirement age for male employees will be 67 and for female employees, 65.

Benefits will be tied in with federal social security benefits and will be based on average monthly earnings and years of credited service with the company.

★ ★ ★

JAMES E. BRYAN, president and treasurer of the Undine Twine Mills

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of Moodus, and a former chairman of the Association's Foreign Trade Committee, died recently while vacationing at Atlantic City, New Jersey.

A native of Brooklyn, Mr. Bryan moved to Moodus in 1926, and in 1931 became president and treasurer of the Moodus Undine Twine Mills, a firm with which he had long been associated as a salesman in Caribbean countries and in the Philippines.

★ ★ ★

RALPH E. KNUP, general manager of J. B. Martin Co., velvet mill, died suddenly of a heart attack recently. Mr. Knup also was vice president of the Norwich mill, treasurer of Clearfield Textile Co. and vice president of J. B. Martin Co., Ltd., Canada. He leaves his wife, his mother, a brother and three sisters.

★ ★ ★

THE CONNECTICUT WATCH MAKERS recently presented their case for an increase in import duties on Swiss watches and movements. Dudley S. Ingraham, vice president of the E. Ingraham Co., of Bristol, told the United States Tariff Commission that the Connecticut industry may be forced out of the watch and clock business if tariffs are not increased.

Mr. Ingraham asked the commission to make its decision as to whether the American domestic watch industry has been injured by Swiss imports based on the effects on the watch industry alone. He also asked that the base period used by the commission be before tariff reductions went into effect on January 9, 1936.

★ ★ ★

THE AMERICAN CAM COMPANY, Hartford, has announced its new "Tap-Holder," (patent applied for) which incorporates the first major improvement for tap holders in recent years.

The Amcam "Tap-Holder" is designed with the center-hole running all the way through rather than with the blind hole common to conventional tap holders. This feature makes it possible to insert a full length tap without grinding off parts of the shank in order to seat the tool in a blind hole.

★ ★ ★

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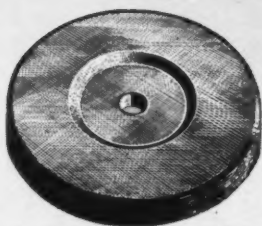
Depreciation is an important and measurable element in determining costs, profits, and taxes. Through property analyses and remaining life studies, the factor of variance in measuring depreciation may be reduced to a very narrow range.

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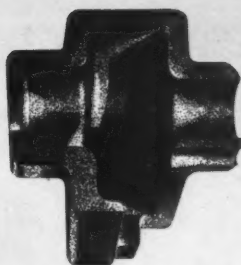


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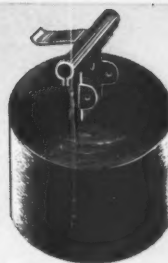
OFFICES IN PRINCIPAL CITIES



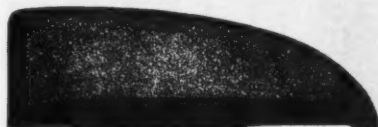
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wheel; Molded cellular rubber



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Insulating and condensation
inhibiting valve cover;
Molded cellular rubber



Bendix Aviation Corp.
Carburetor float;
Metal insert molded in hard
non-interconnecting cellular rubber



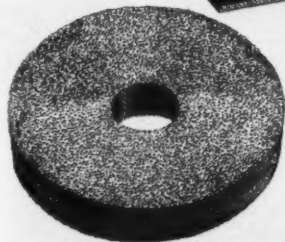
Fisher Body Corp.
Arm rest cushion;
Molded cellular rubber



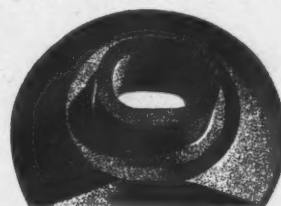
General Motors Corp.
Base weather seal, truck marker
light; Molded cellular rubber



York Corporation
Air seal for air conditioning unit;
Die-cut cellular rubber



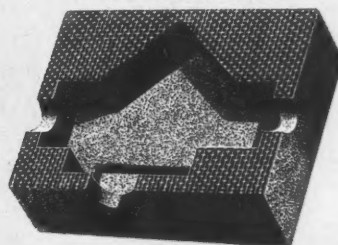
Sanberg Company
Iron lung comfort cushion;
Cellular rubber, special soft



Mack Mfg. Corp. Clutch pedal weather seal;
Molded cellular rubber



A. C. Gilbert Co.
Electric hand vibrator cushion;
Molded cellular rubber



Frigidaire Division,
General Motors Corp.
Solenoid valve insulator;
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Miller Phosphor Bronze and Trembronze are available in strips and rolls, in widths from $\frac{3}{16}$ ". Whatever your requirements, you can depend upon your specifications being rigidly adhered to.

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Corporation, Norwalk, has been announced by Richard S. Perkin, president.

Mr. Cross has been with Perkin-Elmer since 1952. Formerly with the law firm of Blair and Black and its successor firm, Watson, Johnson, Leavenworth and Blair, he has an engineering degree from Lehigh University and a law degree from the University of Pennsylvania.

★ ★ ★

THE APPOINTMENT of Fritzell Foundry and Casting Company, New Haven, as the official distributors in southern New England of fully machined Isotropic Die Cast bronze bars and bushings, has been announced by The Magnolia Metal Co., Elizabeth, N. J.

Fritzell, makers of brass, bronze and aluminum castings since 1916, will distribute the Magnolia line from its New Haven plant.

★ ★ ★

CHASE BRASS & COPPER CO., INC., a subsidiary of Kennecott Copper Corporation, has completed its move into its new Los Angeles warehouse. The new facilities at 6500 East Washington Boulevard, with ample stocks of Chase products for serving customers in Southern California, involves an investment of more than \$1 million.

The Los Angeles warehouse is one of 24 Chase full line warehouses across the nation, supplemented by three sales offices.

★ ★ ★

RICHARD K. JEWETT, former member of the headquarters staff of the Association of National Advertisers, Inc., has joined Pitney-Bowes, Inc., Stamford, as supervisor of advertising production, according to Frederick Bowes, Jr., director of public relations and advertising.

Mr. Jewett succeeds Alexander Flandreau, who has resigned to become sales promotion manager of the Winchester Repeating Arms division of Olin Industries, Inc., at New Haven.

★ ★ ★

THE CUSHMAN CHUCK COMPANY, Hartford, has now completed engineering and is in production on an entirely new pinch type chuck and face plate jaw having wide utility in the metal working industry.

According to the company, this jaw

was developed specifically for use on Cushman's jet engine chucks for precision machining of jet engine discs and rings, but because of its many advantages and great flexibility in application, Cushman has now added this new jaw to the company's line, making it available for use on other set-ups.

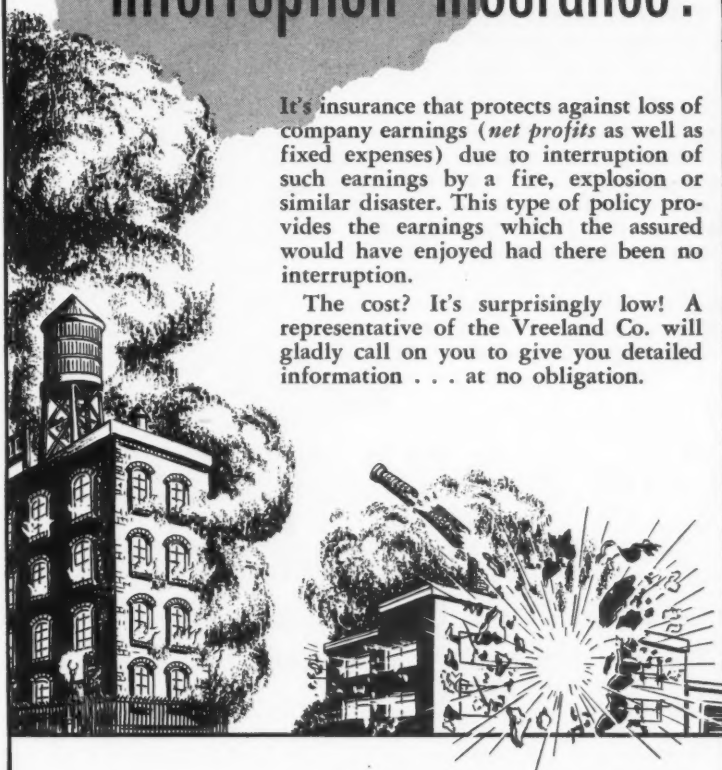
A NEW, COLORFUL and well illustrated brochure has recently been published by the Parker Stamp Works, Hartford, one of the country's largest producers of marking dies.

The products described and illustrated in the catalog are representative of the engineering, design and manu-

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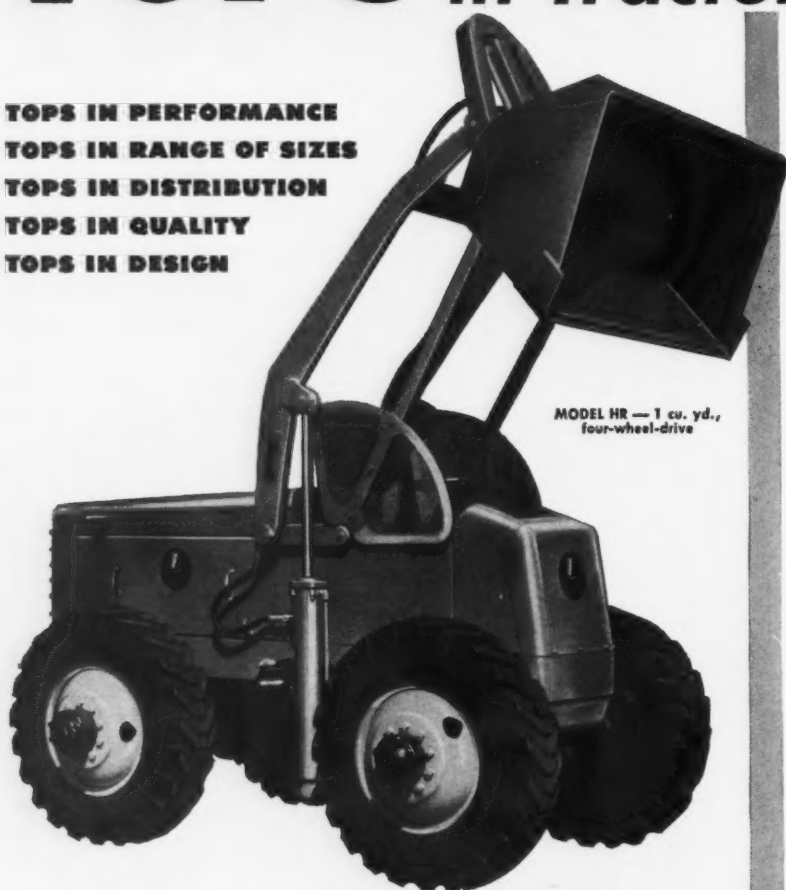
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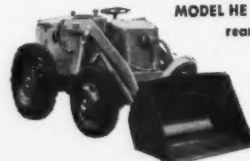
MODEL HA — 12 cu. ft.,
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MODEL HFH — 1 ¼ cu. yd.,
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MODEL HY — 1 ¼ cu. yd., rear-wheel-drive



MODEL HM — 1 ½ cu. yd. four-wheel-drive

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facturing versatility offered by the firm, including steel number and letter sets, die number and letter sets, steel hand marking dies, inspection and symbol stamps.

Also shown are Parker "Standard" type holders, steel type, number and letter type sets, coding type for packaging, dies for roll marking, press marking, embossing and debossing, hot stamping and printing and lithographing dies. The brochure also describes the company's special engraving services available to manufacturers.

Waterbury Tool

(Continued from page 8)

It is interesting to note that the balanced vane pump also had an early relationship to the automotive industry. One of the first applications for this pump, outside of the machine tool industry, was for power steering, which has only recently come into general use, but which was pioneered by Harry Vickers over 25 years ago.

While Vickers Inc., is also a major supplier to the Navy, it, in contrast to Waterbury Tool Co., concentrates principally on industrial applications. It has also introduced hydraulics into many of the fields where it is commonly accepted today. Just a few of these fields where hydraulics works its magic are as follows: Machine tools, farm equipment, automobiles and trucks, construction equipment, materials handling equipment and mining equipment.

It may or may not be a coincidence that Waterbury Tool, which started the hydraulic industry, and Vickers Inc., which spurred its growth, have become a team. As a team, they have completed the previously described largest-in-the-world high pressure oil hydraulic pump.

And now, having moved quickly from the origin of hydraulics to the present, what about the future? Many believe that high pressure oil hydraulics is just emerging from its infancy and in the future its developments will be as familiar to everyone as TV and radio now are. One thing is certain . . . Waterbury Tool will be among the leaders and pioneers of the future hydraulic age.

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With Reliance **ECON-O-GRADE** Sheets you can average-down steel costs on your less complicated, plainer finished stamped products. This may boost your profit margins, or give your salesmen a competitive edge to "cinch" orders.

With Reliance **COMMERCIAL-OR-BETTER QUALITY** Sheet and Strip for your fussier jobs, you get in-stock steel at prices keyed to lowest prevailing mill costs. Spot buying for immediate needs checks inventory build-up, lets you price and sell your goods today on today's costs, multiplies and safeguards quick turn-over profits.

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- ... It's supplying in-stock sheet and strip best suited to your immediate need.

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DETROIT 9, MICHIGAN**

The Growing Need for Discovering New Markets

(Continued from page 18)

to keep sales volume above the level of his fixed costs while a frantic search went on for new markets to fill the gap between plant capacity and lagging sales.

2) The second part of the food-packaging machine problem was how to sell the 275 machines standing in the warehouse. The case-history approach was brought to bear on the problem of discovering new markets.

A review of the machine's characteristics revealed that they had been built originally for exact weighing of the processed food at the point of packaging. It was also found that the machines could probably be adapted to meet the needs of food processors where control of the flow of the product was more important than exact control of weight.

By searching out several markets, and by 75 to 80 carefully placed case-history exchanges of experiences with

informed people who described the problems of food packaging in their special fields, several applications of the machines were found in unexpected, but logical places. Usually the applications were unexpected because some modification of the machines was necessary. These modifications were not unreasonably difficult or expensive, but they did have to be made to fit special and unexpected requirements of each market. By adapting the machines to these new market requirements, the machines were moved out of the blind-alley specialty market in which they had originally stalled.

Two points seem worth noting here:

1) A new product should have its market broadly defined at the earliest possible moment. Production processes can be built up more economically around a broad market requirement at an early stage, rather than later when the market has shown its customary but nevertheless unexpected or unforeseen quirks. And if the unexpected can be turned to advantage before production investment has gone too far, an early market exploration may turn risk into

opportunity at little expense or effort.

2) New markets for established products usually require a modification of present processes and equipment. The market opportunity and the plant investment needed to develop a profitable market opportunity must be worked out in a balanced and continuing partnership.

In summary, discovering new markets carries many hazards with it. The mortality of new products is high because of the complex series of hurdles—often unseen at the beginning—that lie in their path. If we can succeed in developing in our sales exploration work a concentration of informed experiences, and can bring about the effective utilization of informed experiences, we are practicing scientific management on the basis of facts, trends and opinions on trends. By organized comparison of experiences, we get a surer basis for judgment. Managements are thus provided with vital information far beyond their own observation, and beyond the single decisions so doubly perilous under the impact of changing conditions of work.

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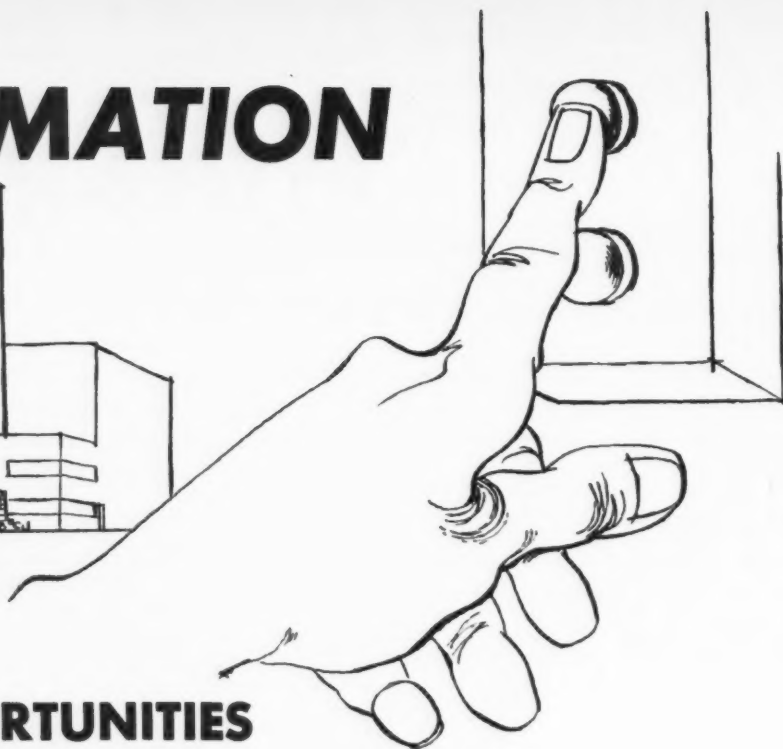
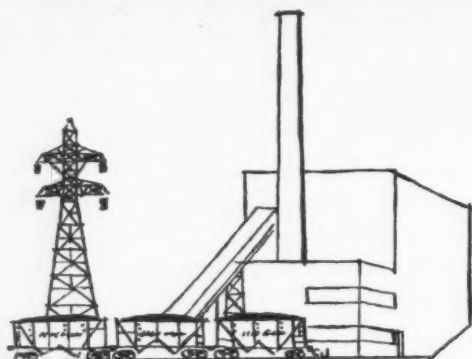
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INDUSTRIAL Relations — Law

By **FREDRICK H. WATERHOUSE**
Counsel

THE NATIONAL LABOR RELATIONS BOARD has adopted basic principles of approach in determining whether a craft unit is appropriate for severance purposes which should help in hereafter solving this troublesome question. In reviewing the history of the Board's approach it was felt that previous rulings had the effect of permanently foreclosing the possibility of establishing craft or departmental units in certain industries by freezing that industry into an industrial unit for bargaining purposes. This result appeared to the Board to be inconsistent with the legislative intent of the Taft-Hartley Act, which provides in part that the Board "shall not . . . decide that any craft unit is inappropriate . . . on the ground that a different unit has been established by a prior Board determination, unless a majority of the employees in the proposed craft unit vote against separate representation. . . ." The new Board determined to re-examine the legislative history and reappraise the entire situation and as a result has developed a more specific and comprehensive policy.

The basic determination is ". . . that a craft group will be appropriate for severance purposes in cases where a true craft group is sought and where, in addition, the union seeking to represent it is one which traditionally represents that craft."

In reaching this conclusion the Board recognizes the fact that there are unions which have devoted themselves to the special problems of the various craft employees, thus demonstrating that the interests of such craft employees are distinctive and traditionally recognized. The fact that fragmentation of bargaining units in highly integrated industries could result in the loss of efficiency and also afford an opportunity for jurisdictional disputes

as to work assignments was not ignored nor was the fact that disruptive economic and social conditions sometimes occur as the result of craft existence in industrial plants where a small cohesive craft group, by striking, closes down the entire industrial plant which may thus put thousands of employees out of work. However, the Board feels that to deny all craft units separate representation was equally productive of labor unrest.

The Board felt it was not in its province to dictate the course and pattern of labor organization and that if millions of employees feel their inter-

ests are better served by craft unionism, the Board should not require that they be represented on an industrial basis or even that they must bargain on strict craft lines. It does conclude, however, that true craft groups should have an opportunity to decide the issue for themselves.

It was made clear that the unit sought to be severed must be a true craft group and this requirement will be rigidly enforced where severance is sought on that basis and will not be relaxed over a period of time. The Board feels that under its new rule fewer groups will be severed but, at the same time, the principle of craft independence will be maintained.

Of course, the question arises of what is a true craft unit, and this the Board determines must consist of "... a distinct and homogeneous group of skilled journeymen craftsmen, working as such, together with their apprentices and/or helpers." In order to qualify as a "journeyman craftsman," an individual is required to have a kind and degree of skill which is normally acquired only by undergoing a substantial period of apprenticeship or comparable training. As a rule-of-thumb test the number of years' apprentice-



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ship the individual has served is considered while recognizing that such generally accepted standards may vary from craft to craft. Experience equivalent to such apprenticeship may be recognized where it is clearly demonstrated to exist. Nevertheless, in order to meet the requirements for severance, all craftsmen of the same type in any plant, except those in traditionally departmental units, must be included in the unit. Also, employees who may work in association with the craft employees but not in the direct line of progression in the craft will be excluded and all craftsmen included in one unit must be practitioners of the same allied craft and must be primarily engaged in the performance of tasks requiring the exercise of their craft skills.

Employees in certain other minority groups, though lacking the hallmark of craft skill, may nevertheless be equitably entitled to be treated as severable units. There are sometimes distinct departments containing employees identified with traditional trades or occupations which are quite distinct from that of other employees and these groups have common special interests in collective bargaining because of this distinction. Furthermore, there are unions which have devoted themselves to the special problems of such employees which indicates their interests are distinctive and traditionally recognized. In such cases the Board proposes to establish a strict limitation and will not permit such a situation to be deemed a substitute basis for avoiding its craft unit criteria. In order to accomplish this, it will require strict proof ". . . (1) that the departmental group is functionally distinct and separate and (2) that the petitioner is a union which has traditionally devoted itself to serving the special interest of the employees in question."

Opinions differ as to whether these new rules of the Board will result in the establishment of more craft units or whether it will eliminate the possibility in many situations where they might otherwise be recognized. It is likely that no very great change will be observed in the overall situation although individual situations will be altered. In any event, the Board has given serious consideration to its obligation to carry out the expressed intent of Congress and has developed rules which should help all concerned in determining the answer to such severance as the cases arise.



SPOTLIGHT ON THE FUTURE*

By R. C. SWANTON

Director of Purchases,

Winchester Repeating Arms Company,
Division of Olin Industries, Inc.

General Business Conditions

PURCHASING executives' reports for March show that industrial production and order increases both outbalance decreases for the first time since last May. The change of trend is marginal and, possibly, seasonal for production, with 24% up and 18% down. It is stronger on new orders, with 31% up and 17% down. As would be expected, the individual changes are not large, and the reversal of trend is not strong enough to indicate a sharp upswing. However, it is apparent from our March survey that the industrial business decline has abated and is leveling out. Prices are showing some strength, particularly in the nonferrous metals. Unworked material inventories are down again. Employment is showing some betterment, as 68% report it to be holding steady, the same as last month, with some re-

porting increases. Buying policy is still of short range.

The comments from producers of excise-taxed items indicate that considerable business is being held back awaiting final tax legislation.

As to the future, the large majority of purchasing executives take a short-range view, and they expect that second-quarter activity will be higher than in the first quarter. A few can see good business through the third quarter and a few more are optimistic for the whole year. The longer predictions are hedged with too many "ifs" to make any clear pattern.

Commodity Prices

While industrial materials markets record many small, scattered declines, there were fewer of them and the general price structure made the first show of strength this year. Nonferrous metals were in the van of this slight upward movement.

Competition is very keen. Salesmen are following up inquiries very closely.

* Composite opinion of purchasing agents who comprise the N.A.P.A. Business Survey Committee, whose Chairman is Robert C. Swanton.



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A large increase in open quotations is reported, indicating a broadening of the shopping policy of many buyers. No sharp price movement, either way, is looked for in the immediate future.

Inventories

Inventories of the items and materials purchased are reported lower by 44% of the purchasing agents reporting. This compares with 51% so indicating in February. While there is no tendency to build up inventories, the highest number since last November (45%), shows no change in stocks, confirming the February report that adjustments of unworked materials to current requirements have been completed in many companies. Quick availability and increased competition are restraining influences on inventory accumulation.

Employment

Pay rolls continue to decline, with 32% reporting layoffs or reduced working time. This is the same percentage that reported this condition last October. The peak month, however, was January, when 47% reported lower employment. Only a few reductions were drastic cuts. The majority consists of not replacing quits or of instituting a shorter work week. Several report calling back people laid off in January. Productivity is on the rise. Few strike difficulties are mentioned.

Buying Policy

Commitments remain predominantly in the mid-range of "hand-to-mouth" to 90 days. Reversal of the boom time escalator pricing is beginning to appear in offers of protection against price declines to attract continuing volume purchases. For the most part, purchasing departments are buying in the smallest economical quantities and placing orders more frequently.

Specific Commodity Changes

The downs lead the list again with many small price changes. On the up side: Zinc, lead, copper and tin, cotton, dyes, malleable iron fittings, soybeans, sugar, pork, hides, mercury, soap, tallow. Reported down: Alcohol, autos, brass rod, coal, cartons, cans, aluminum conductors, dry milk, fuel oil (some areas), gasoline, glycerin, some lumber, vegetable oils, propane, steel scrap.

Hard to get: Nickel, polyethylene, selenium, some structural steel.

Canada

Canadian industrial business in March has improved over February.

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Production increases and new orders are reported somewhat higher than in the United States. Commodity prices are very much in line. Inventories are higher and employment is picking up much faster. Buying policy a little longer range than in the States. Weather is permitting the start of many building programs.

★ ★ ★

Economics Course Via TV for Employed Persons

(Continued from page 9)

some way connected with that subject in his daily routine at the office follows the course, then not only is he benefited by being trained to do a better job, but his employer also shares the dividends by receiving the benefit of this more skillful worker.

Going one step further, suppose in the future a course in efficient office management were to be offered, or a sales training course. Such courses would afford savings to employers, white at the same time provide invaluable training to the men or women who take advantage of the opportunity.

A university or a college exists solely for the purpose of disseminating knowledge, and it has the facilities and the resources, as well as the personnel, with which to do the job more efficiently. Such is the present case with the economics course, the first step of what we hope will be many.

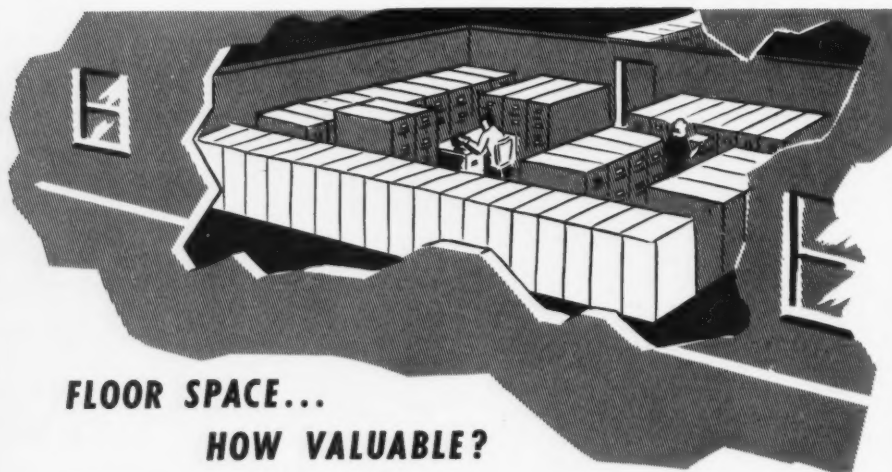
Dr. Hans Apel, chairman of the university's economics department, is probably better equipped to teach this subject than any one of hundreds of people now working in industry. Prior to his present position, which has given him much valuable teaching experience, Dr. Apel was once top executive of an internationally known European firm.

Television offers unlimited opportunities, not only in the field of entertainment, and higher education, but also in the field of disseminating the kinds of knowledge for which all of us today have a great need. Its bounds are limitless and its possibilities too numerous to mention. Subjects never before given wide publication can now move right into the living room, and best of all for us, we can now learn to do our jobs better without even leaving our home.

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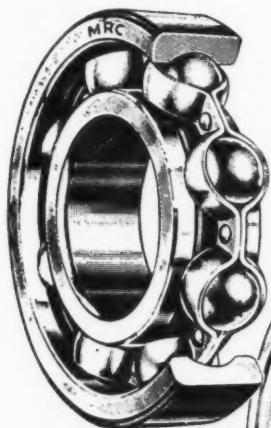
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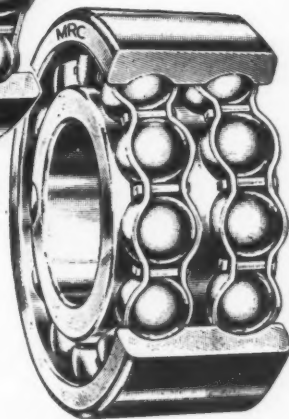
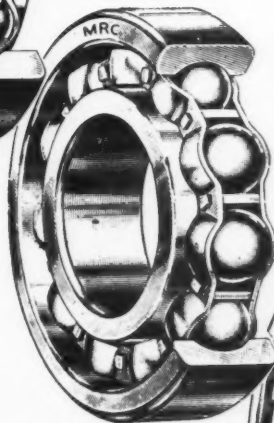
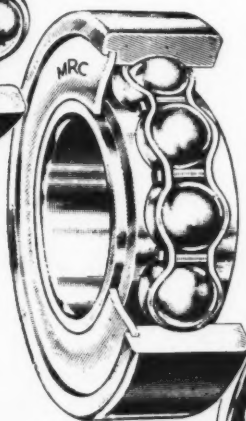
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BUSINESS PATTERN

A comprehensive summary of the ups and downs of industrial activity in Connecticut for the thirty day period ending on the 15th day of the second previous month.

THE index of general business activity in Connecticut for January declined two points to an estimated 19% above normal. Since June 1953, Connecticut business activity has experienced a generally steady decline, falling off 13 points during this seven month period. In January two of the five components of the index, manhours worked and cotton mill activity, showed little change over their standings of a month ago. Manufacturing employment declined slightly from the preceding month whereas freight shipments showed a noticeable drop from its December level. Con-

struction activity was the only component that registered a gain over a month ago. The United States index of industrial activity declined for the eighth consecutive month to an estimated 4% above normal, continuing the downward movement in industrial activity which has reduced the index by 16 points since May 1953. A substantial part of this decline in production has resulted from businessmen's action to control inventories.

The January index of manhours worked in Connecticut factories moved horizontally at an estimated 31% above normal. The current standing is

approximately two points below the January 1953 index and four points below the average for the twelve months of 1953. During January the average hours worked per week in Connecticut factories was 40.5 as against 41.8 in December and 42.9 a year ago. Average weekly earnings were \$72.14 for January compared with \$75.24 a month ago and \$74.32 in January 1953.

The index of employment in Connecticut factories declined two points to an estimated 20% above normal for the month of January. This is the sixth successive month that the employment figure has fallen, and it is now approximately seven points below the peak recorded in July 1953. Connecticut manufacturing employment numbered 444,000 in January reflecting in part seasonal decrease from the 452,000 working in December, and partly a continuation of the gradual decline that has been in evidence since mid-1953. Non-manufacturing employment, which is even more noticeably affected by post-holiday lay-offs, dropped to 418,000 from 443,000 in the previous month. Unemployment, as measured by the State Department of Labor's report of total claimants for unemployment benefits has increased 14,000 since mid-December. The 31,000 unemployed as of the last week in January, however, is less than one-third of the number of claimants for unemployment benefits during July of 1949.

In January, the index of freight shipments in Connecticut declined for the third consecutive month to an estimated 30% below normal. During the past five months the index has been below normal with accelerated declines recorded in the last two months. Freight carloadings in eight Connecticut cities during 1953 was 3% less than in 1952 whereas loadings of revenue freight for the country as a whole, as reported by the Association of American Railroads, was approximately 1% higher during this period.

The January index of construction activity in Connecticut increased nine points to an estimated 92% above normal. The construction figure has risen 25 points during the last two months and is now eight points above the standing of twelve months ago. The July index, the lowest in 1953, was approximately 30 points under the current level. Although the construction index had slipped somewhat during 1953 the volume of construc-



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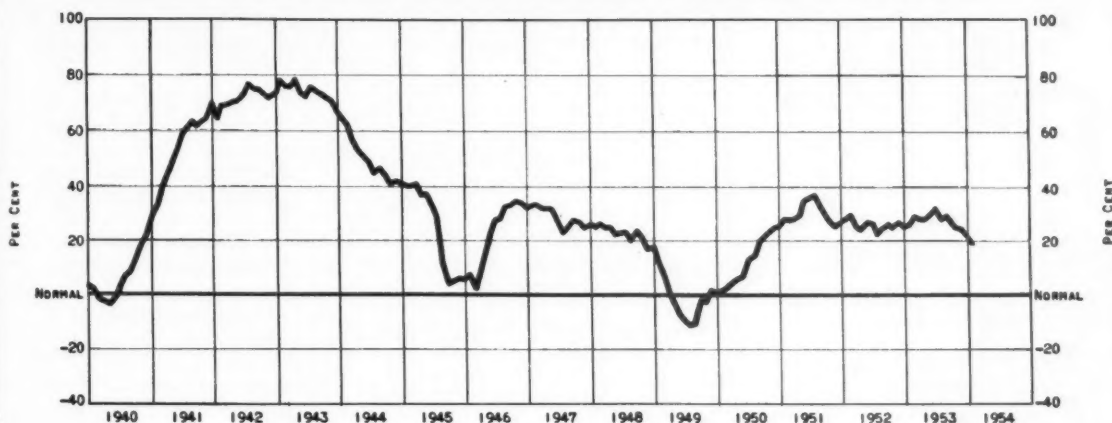
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GENERAL BUSINESS ACTIVITY IN CONNECTICUT COMPARED WITH NORMAL



tion underway is still very favorable. New building contract awards of all kinds in Connecticut averaged 7,064,000 square feet per quarter in 1953, slightly higher than the 1952 quarterly average. Residential awards during 1953 averaged 5,002,000 square

feet per quarter which, while high, fell below the 1952 quarterly level of 5,360,000 square feet, the all-time peak. More non-residential construction was started in 1953 than in the previous year but not as much as in 1951. several large scale non-residen-

tial buildings were undertaken in 1953 and are still under way. Among these projects are a helicopter plant in Stratford, office building in Hartford and Wethersfield, two factory buildings in Bridgeport, a power plant in Middletown, and telephone buildings

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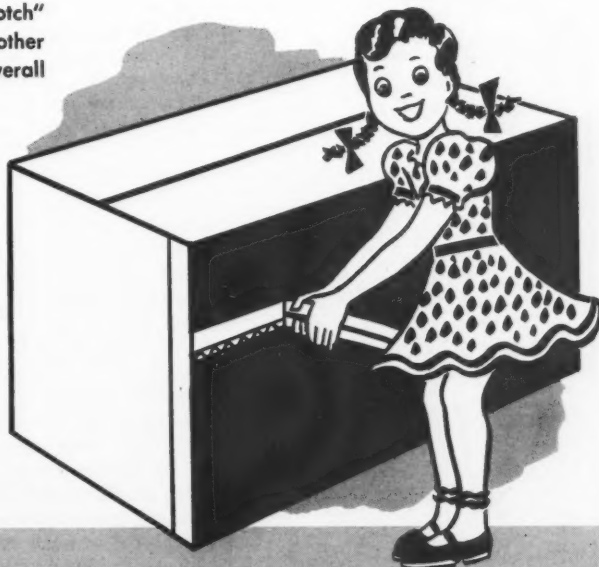
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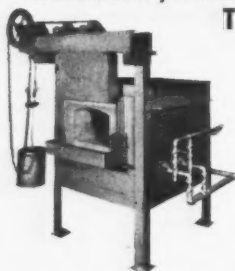
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in New Haven, Hartford, Stamford and Waterbury. It is the continuation of these major projects, in addition to new undertakings, which is reflecting a somewhat increased construction index at the present time.

The *consumers' price index* for January 1954 is 115.2 (1947-1949=100), one point above January 1953. For the past six months the index has remained fairly steady with only slight fractional changes being recorded. The *wholesale commodity index* for January 1954 is 110.4 (1947-1949=100) slightly above a month ago. During the past six months the wholesale index has had but fractional changes with the present standing being only slightly above the January 1953 level.

The Industrial Hygiene Chemist Looks at the Noise Problem

(Continued from page 11)

have been agreed upon by the American Standards Association and other associations now working toward the solution of the problem. However, since it is wise to be forewarned concerning potential damage to hearing that may exist in Connecticut industries, management of those industries are invited to request the services of the Connecticut Bureau of Industrial Hygiene, State Health Department, to measure all noise exposures with their modern equipment and make such recommendations as are considered practical in minimizing or eliminating hearing-damage hazards that may be discovered.

CORRECTION—On page 28 of the February issue of CONNECTICUT INDUSTRY the reference to Mr. LeMay should have read, "Joseph LeMay, who succeeds Mr. Drew in the office of company treasurer, will continue in the office of secretary of the firm."

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The Consultant's Role in Group Disability Insurance

By LAURENCE J. ACKERMAN*

THE past two decades have witnessed an unbroken record of progress in the coverage of the American family against the financial hazards of accident and sickness. At the end of 1952, 91,667,000 people were covered against hospital expense, an increase of 7% over 1951; 73,161,000 persons were protected against income loss due to surgical expense, a 12% increase over 1951; 35,797,000 of our population were insured against medical expense, 29% more people than in 1951. In the state of Connecticut, as of the end of 1952, there were 1,675,000 persons protected against hospital costs; 1,236,000 insured for surgical expense; and 843,000 covered for medical charges. At the end of 1952, approximately 3 out of every 5 members of the civilian labor force were safeguarded against income loss for disabilities, the result of off-the-job accidents or illness. Workmen's Compensation would protect the employee if the disability were the consequence of an occupational injury or illness.

In this enormous growth, group insurance has played a significant part. The widespread interest in employee welfare resulting from a modern philosophy of human relations, stimulated by a favorable tax environment and tax treatment, and encouraged by Union interest, has done much to spread the gospel of group insurance as the economic cushion against the hazards of disability.

Like all new social and economic phenomena, the growth of this field has not been a solid, steady, evolving pattern. It has had spurts and setbacks. The problems associated with it have been legion.

In this brief discussion, only one question will be explored, and this in a general vein. Of what value is a consultant in this field?

Early in the reflections and discussions about the installation of a health and welfare plan, be it unilateral or Union-negotiated, the consultant can direct the basic spadework for the development of employee data. This information is a prerequisite in the intelligent determination of plan specifications as to eligibility, nature and amount of benefits, etc. If the plan is Union-negotiated, the consultant can be excellent counsel in the negotiation sessions.

Another role of the consultant is the preparation of the employee data and the plan design for bid by the insurance companies. This is extremely important, if effective and appropriate comparisons are to be made between insurers. It is difficult, even under expert guidance, to obtain quotations on an exactly comparable basis.

When the bids are available, the consultant will analyze them in detail. He will usually submit a written report and supplement this with an oral discussion.

What type of data will the consultant enclose in his report? Obviously, each report will be shaped to the needs of the particular situation. Further,

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* Dean, School of Business Administration; Professor of Insurance.

each consultant has his own concept of the significant indices for company selection. But a typical report might begin with an analysis of the financial strength and size of the competing insurance carriers. This is not a determinative factor, for size alone may not mean lower cost or even better quality of service. But it might be one of the elements which help shape the final choice. Length of time in the group business will be another consideration. This might bear on the experience and skill of the company staff and the pervasiveness of its awareness of the pitfalls and difficulties in the health and welfare field.

The consultant will be interested in portraying the respective policies of the Insurers on discounts for size of risk from the so-called manual or regular premium.

Then the consultant may explore at great length the problem of "retention." The retention may be described as that part of the insurance premium which the insurance company "retains" after claims are paid and dividends or credits are made available to

the policyholder. The retention then represents the amount necessary to cover the insurance company's expenses, reserves and profits. In examining the retention philosophy of the competing insurance companies, the consultant will obtain a 10-year projection of retentions based upon a hypothetical loss ratio. For example, he might ask for a retention exhibit based on a 60%, 70%, 80% loss ratio. Or he might express the losses in a dollar amount, which seems a preferable procedure. The element of retention as a competitive device has probably been over-emphasized. Virtually all insurance companies give dividends or experience rate credits. With competition severe in this field, it could be argued that over a period of time, price will equalize as between insurance carriers. What may be more significant is the quality of claim service, accounting service, and interpretative and research service.

Sometimes a guaranteed retention is requested. Few companies will do this. In some states such a guarantee is illegal. In New York, it is illegal unless

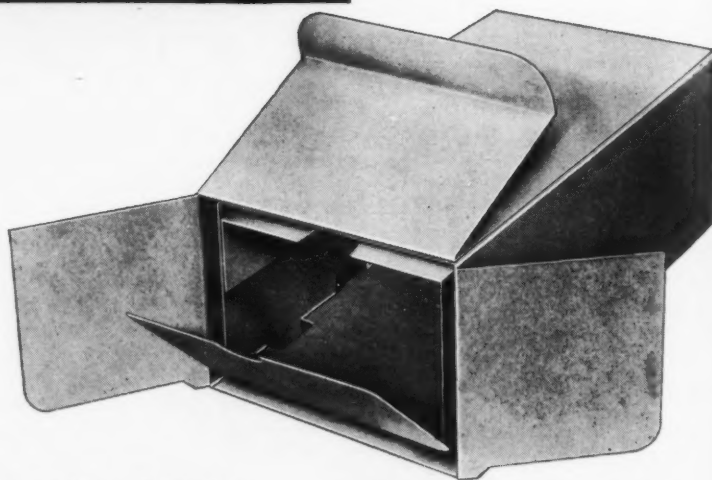
there is written into the insurance contract a premium redetermination formula and this is approved by the state insurance department. Even if a retention is guaranteed and is expressed as a percentage, it is not too meaningful an assurance. The insurers retain the privilege to increase premium rates on a renewal date. The result is that a percentage retention, even if the same percentage, can bring about a higher dollar retention, if premium rates are increased on the anniversary date.

Companies do differ in their retention policy. For example, companies amortize initial expenses differently. Insurance Company A may amortize the expense slowly. As a result, it may develop higher dividends or rate credits in the early years. But this company has to face the loss of considerable money if groups terminate at an early date. In addition, this company loses some interest earnings on the unamortized cost.

Company B may amortize swiftly. It may suffer in its net cost comparisons in the early years, but will prob-

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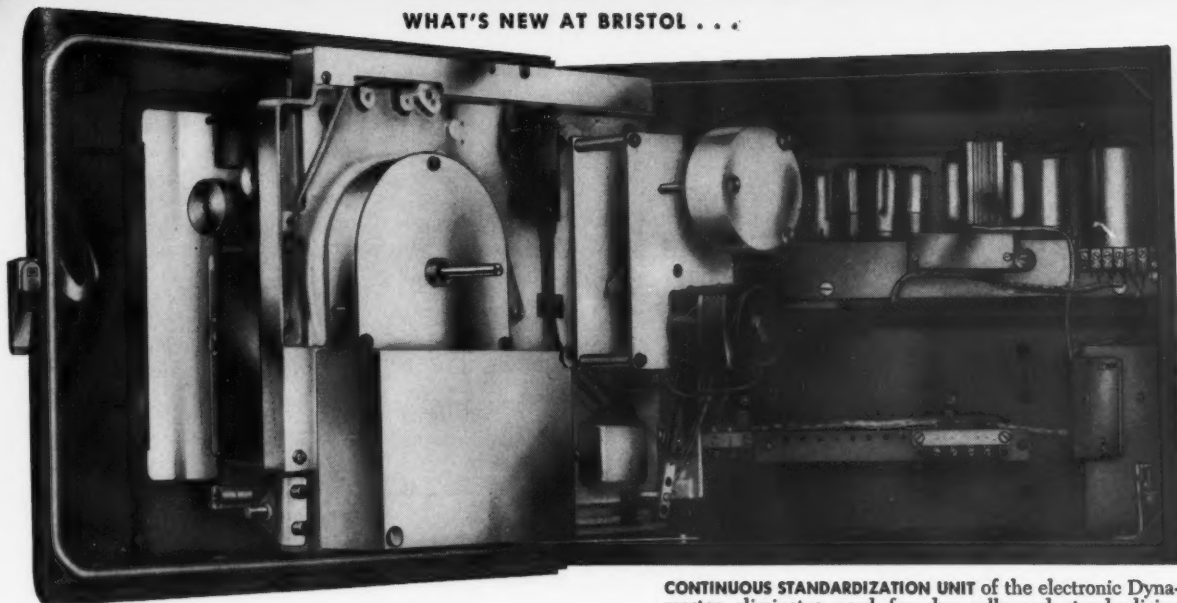
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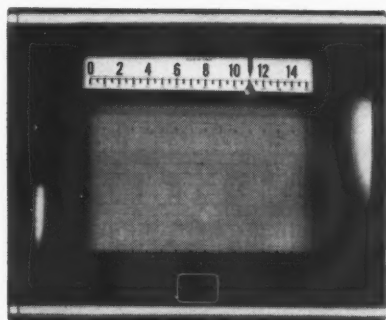
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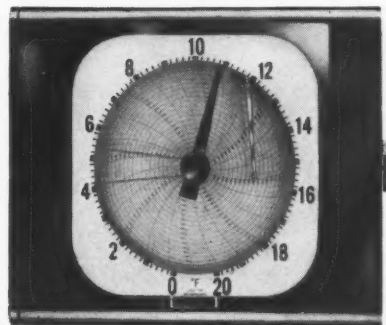
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ably come to the fore competitively in the later years. All of this is a plea for longer range cost comparisons than two or three years.

Nevertheless, from the purchaser's viewpoint, retention exhibits have value. It would seem that the first year's figures should be in the nature of a commitment by the insurance company. The data for the subsequent years are a helpful measuring rod and a reminder device to keep the insurance companies close to their advance cost projections—assuming no serious deviations from the original benefit pattern, loss suppositions or expense trends.

The consultant will also probe into the question of the return of the retention if the contract is terminated. In like manner, if the contract is terminated, will there be any return of the over reserve for claims, if this should be the case.

Once the insurance has been placed, the consultant can aid in the preparation of booklets describing the plan for distribution to the covered employees. The consultant can aid in the development and design of control and reporting procedures for the handling of the plan. This can be an enormous

task if the plan is a trusted affair affecting a host of small or even large employers. The consultant will conduct a continuing study of claim experience to ascertain adverse trends, areas of plan failure, etc.

From this very brief and general discussion, one can visualize the important role of the consultant in a health and welfare program. Fortunately, in our larger cities, a number of professional consulting organizations have emerged to service this type of industrial problem. They have rendered excellent service to American industry and American labor in the development of sound economic and scientific approaches to a health and welfare program.

Town Meeting—Factory Style

(Continued from page 15)

The Pay-Off

The time and energy given to this activity for sound government has paid off in better government, in employee development and improvement

of inter-company relations, and has put plant-community relations on a stronger foundation.

Tangible results have been obtained in actual participation in government. Forty men among the 1,850 members hold public office. There are a dozen municipal councilmen, a dozen members of school boards, plus township treasurers, budget officers, tax assessors, assemblymen, constables and others. In New Hampshire two night-shift foremen are members of the State Assembly.

In the past November elections in the New Brunswick, New Jersey area, six members of the Sound Government group campaigned for public office. One was elected mayor of Milltown, and one defeated for the same position in Highland Park. Two councilmen were elected in East Brunswick and Bound Brook; two defeated in Middlesex and Metuchen. These candidates held jobs in the company ranging from maintenance engineering and personnel to research and accounting.

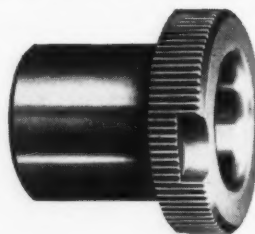
In addition to those who ran for office at least 300 other Sound Government members took an active part in the State and local political campaigns.

(Concluded on page 68)

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Indirect Material Expense Reduction

TO start an effective program of cost reduction requires the interest and support of top management and the requirement that those persons who authorize costs exert every effort to bring about their reduction.

In a period of rising costs, many of which seemingly cannot be properly controlled, it is good practice to select those costs which can truly be controlled in order to emphasize the importance and practicability of cost reduction.

The following is an illustration of the method used in one small manufacturing plant to bring about a reduction in the cost of indirect materials used.

The account classification for indirect materials was set up to cover fourteen types or classes of shop supplies used by nine productive and ten nonproductive departments. A departmental budget for each class of material used was set up for from three to six periods ahead. This budget was prepared by the controller after consultation with the production superintendent and the foreman of each department. The basis for the final budget was past usage and estimated minimum indirect material required for the planned production of the periods ahead. Economy in the use of indirect materials was stressed in reaching the final budget figures. These figures were established as standards which the foremen had helped to establish and for which he was held accountable.

The accounting for indirect material was carried through inventory by a charge to supplies inventory account with a credit to accounts payable on material when purchased and a charge

to one of the departmental indirect material expense accounts with a credit to supplies inventory account when the material was taken from the stockroom for use, by means of a requisition approved by a department foreman. These requisitions were costed, classified, and summarized to obtain the total charge for each class of indirect material used by each department. This method made certain that the cost of indirect materials would be shown in the period when the material was used. Additional control in the indirect material purchasing and accounting routines was obtained by requiring the approval of the production superintendent for placing orders for any types of materials not formerly considered as necessary. Maximum inventory levels were established and enforced to prevent overstocking of indirect materials.

Comparisons at the end of each accounting period of the actual expense of indirect materials used with the established budget standards were carried out by the production superintendent with each foreman individually. It was at this point that emphasis was placed on the necessity for continued vigilance on the part of foremen to cut the costs of indirect materials used thus giving to the program its especial value.

Thinking about and acting on this one phase of expense reduction brought about almost automatically the consideration of other types of cost that might be reduced and served to establish throughout the entire plant supervisory force a sense of cost consciousness and responsibility for cost control and cost reduction previously not in existence.

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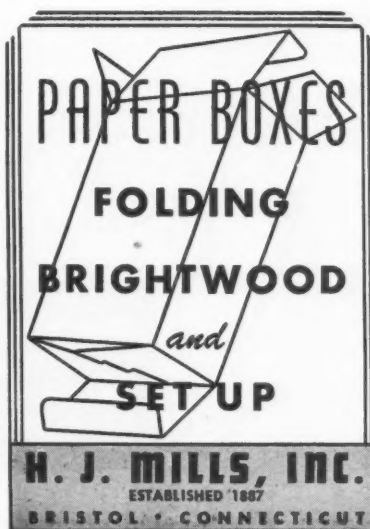
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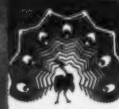
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Baer Brothers	Stamford	Batteries		Colonial Blower Company	Plainville
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Anodizing					
Conn Metal Finishing Co	Hamden				

I T ' S M A D E I N C O N N E C T I C U T

Bottle Openers		Brass Mill Products		Cable-Service Entrance	
Scoville Mfg Co (steel, anodized aluminum)	Waterbury	American Brass Company The	Waterbury	General Electric Company	Bridgeport
Box Board		Bridgeport Brass Co	Bridgeport	Cages	
Lydall & Foulds Paper Co The	Manchester	Chase Brass & Copper Co	Waterbury	Andrew B Hendryx Co The (bird and animal)	New Haven
National Folding Box Co Inc	New Haven	Plume & Atwood Mfg Co The	Thomaston	Cams	
Robertson Paper Box Co	Montville	Scovill Manufacturing Company	Waterbury 91	American Cam Company Inc	Hartford
Gair Company Inc Robert	Montville	Western Brass Mills Division of	Olin Industries Inc	Hartford Special Machinery Co The	Hartford
New Haven Board and Carton Co The	New Haven	Brick-Building		Rowbottom Machine Company Inc	Waterbury
Boxes		Donnelly Brick Co The	New Britain	Canvas Products	
Claireglow Mfg Company (metal)	Portland	Bricks-Fire		F B Skiff Inc	Hartford
Connecticut Container Corporation	New Haven	Howard Company	New Haven	Capacitors	
Gair Company Inc Robert (corrugated and solid fibre shipping containers)	Montville	Mullite Refractories Co The	Shelton	Electro Motive Mfg Co Inc The (mica & trimmer)	Willimantic
Merriam Mfg Co (steel cash, bond, security, fitted tool and tackle boxes)	Durham	Bright Wire Goods		Caps & Closures-Metal	
Warner Bros Co The (Acetate, Paper, Acetate and Paper Combinations, Counter Display, Setup)	Bridgeport	Sargent & Company (Screw Eyes, Screw Hooks, Cup Hooks, Hooks and Eyes, C H Hooks)	New Haven	American Associates Mfg Corp	Deep River
Boxes and Crates		Broaching		Card Clothing	
City Lumber Co of Bridgeport Inc The	Bridgeport	Hartford Special Machinery Co The	Hartford	Standard Card Clothing Co The (for textile mills)	Stafford Springs
Wallingford Planing Mill Co Inc	Yalesville	Bronze Powders		Carpenter's Tools	
Boxes-Metal		Baer Brothers	Stamford	Sargent & Company (Planes, Squares, Plumb Bobs, Bench Screws, Clamps and Saw Vises)	New Haven
Merriam Mfg Co (Bond and Security, Cash and Utility, Personal Files and Drawer Sales)	Durham	Brooms-Brushes		Sponge Rubber Products Co Inc	Shelton
Boxes-Paper-Folding		Fuller Brush Co The	Hartford	Carpets and Rugs	
Atlantic Carton Corp	Norwich	Buckles		Bigelow-Sanford Carpet Co	Thompsonville
Bridgeport Paper Box Co	Bridgeport	B Schwanda & Sons	Staffordville	Casters	
Carpenter-Hayes Paper Box Co Inc The	East Hampton	G E Prentice Mfg Co The	Kensington	Bassick Company The (Industrial and General)	Bridgeport
Curtis & Sons Inc S	Sandy Hook	Hawie Mfg Co The	Bridgeport	Casters-Industrial	
Dowd Carton Co M S	Groton	John M Russell Mfg Co Inc	Naugatuck	George P Clark Co	Windsor Locks
Folding Cartons Incorporated (paped, folding)	Portland	North & Judd Manufacturing Co	New Britain	Castings	
Gair Company Inc Robert	Bristol	Patent Button Co The	Waterbury	Connecticut Foundry Co (grey iron)	Rocky Hill
H J Mills Inc	New Haven	United States Rubber Company	Shoe Hardware Division	Connecticut Malleable Castings Co (malleable iron castings)	New Haven
National Folding Box Co Inc (paper folding)	New Haven	Buffing Compounds		Consolidated Industries Inc	West Cheshire
New Haven Board and Carton Co The	Bridgeport	Roberts Rouge Co The	Stratford	Charles Parker Company The (grey iron, brass, bronze, aluminum)	Meriden
Robertson Paper Box Co	Montville	Buffing & Polishing Compositions		Eastern Malleable Iron Company The (malleable iron, metal and alloy)	Naugatuck
Warner Bros Co The	Bridgeport	Apothecaries Hall Co	Waterbury	Farrel-Birmingham Company Inc (Mechanite, Nodular Iron, Steel)	Ansonia
Boxes-Paper-Setup		Lea Mfg Co	Waterbury	Gillette-Vibber The (grey iron, brass, bronze, aluminum, also Bronze Bushing Stocks)	New London
Box Shop Inc The	New Haven	Buffing Wheels		Plainville Casting Company (gray, alloy and high tensile irons)	Plainville
Bridgeport Paper Box Co	Bridgeport	Williamsville Buff Div The	Bullard Clark Danielson	John M Russell Mfg Co Inc (brass, bronze and aluminum)	Naugatuck
Henninway Corporation The	Waterbury	Burners		Malleable Iron Fittings Co (malleable iron and steel)	Branford
H J Mills Inc	Bristol	Plume & Atwood Mfg Co The (kerosene oil lighting)	Waterbury	McLagon Foundry Co (grey iron)	New Haven
Hrouse Adler Company The	New Haven	Burners-Automtaic		Meyer Iron and Brass Foundry Inc (grey iron)	Shelton
Warner Bros Co The	Bridgeport	Peabody Engineering Corporation	Stamford	Newton-New Haven Co (zinc and aluminum)	688 Third Ave West Haven
Brake Cables		Burners-Coal and Oil		Phillbrick-Booth & Spencer Inc (grey iron)	Hartford
Eis Manufacturing Co	Middletown	Peabody Engineering Corporation (Combined)	Stamford	Producto Machine Company The	Bridgeport
Brake Linings		Peabody Engineering Corporation (Blast Furnace)	Stamford	Scovill Manufacturing Company (Brass & Bronze)	Waterbury 91
Raybestos Div of Raybestos-Manhattan Inc The (automotive and industrial)	Bridgeport	Burners-Gas		Sessions Foundry Co The (grey iron)	Bristol
Russell Mfg Co The	Middletown	Peabody Engineering Corporation	Stamford	Stamford Casting Company Inc (Aluminum, Magnesium and Bronze)	Stamford
Brake Service Parts		Burners-Gas and Oil		Turner & Seymour Mfg Co The (gray iron, semi steel and alloy)	Torrington
Eis Manufacturing Co	Middletown	Peabody Engineering Corporation (Combined)	Stamford	Union Mfg Co (grey iron & semi steel)	New Britain
Brass & Bronze		Burners-Refrinery		Waterbury Foundry Company The (highway & sash weights)	Waterbury
American Brass Co The (sheet, wire, rods, tubes)	Waterbury	Peabody Engineering Corporation (For Gas and Oil)	Stamford	Wilcox Crittenden & Co Inc (gray iron and brass)	Middletown
Bridgeport Brass Company (sheet, rod, wire and tubing)	Bridgeport	Burnishing		Castings-Investment	
Bristol Brass Corp The (sheet, wire, rods)	Bristol	Albott Ball Co The (Burnishing Barrells and Burnishing Media)	Hartford	Arwood Precision Casting Corp	Groton
Chase Brass & Copper Co	Waterbury	Burs		Castings-Permanent Mould	
Miller Company The (phosphor bronze and brass in sheets, strips, rolls)	Meriden	Pratt & Whitney Div Niles-Bement-Pond Co	West Hartford	Charles Parker Company The	Meriden
Plume & Atwood Mfg Co The (sheet, wire, rod)	Thomaston	Buttons		Cements-Refractory	
Scovill Manufacturing Company	Waterbury 91	B Schwanda & Sons	Staffordville	Mullite Refractory Co The	Shelton
Tinsheet Metals Co The (sheets and rolls)	Waterbury	Frank Parizek Manufacturing Co The	Putnam	Chain	
Western Brass Mills Division of Olin Industries Inc (sheet, strip)	New Haven	Patent Button Co The	Waterbury	John M Russell Mfg Co Inc	Naugatuck
Brass & Bronze Ingot Metal		Scovill Manufacturing Company (Uniform and Tack Fasteners)	Waterbury 91	Turner & Seymour Mfg Co The (weldless, sash, jack, safety, furnace, universal, lion and cable)	Torrington
Plume & Atwood Mfg Co The	Thomaston	Waterbury Companies Inc (Uniform and Fancy Dress)	Waterbury	Chain-Power Transmission and Conveying	
Whipple and Choate Company The	Bridgeport	Cabinets		Whitney Chain Company	Hartford
Brass, Bronze, Aluminum Castings		Charles Parker Co The (medicine)	Meriden	Chain-Welded and Weldless	
Charles Parker Company The	Meriden	Cabinet Work		Bridgeport Chain & Mfg Co	Bridgeport
Stamford Casting Company Inc	Stamford	Hartford Builders Finish Co	Hartford	Chain-Bead	
Victors Brass Foundry Inc	Guilford	Cable-Asbestos Insulated		Auto-Swage Products Inc	Shelton
Brass Goods		Rockbestos Products Corp	New Haven	Bead Chain Mfg Co The	Bridgeport
American Associates Mfg Corp	Deep River	Cable-BX Armored		Chairs	
American Brass Company The	Waterbury	General Electric Company	Bridgeport	The Hitchcock Chair Company	Riverton (Advt.)
Plume & Atwood Mfg Co The (to order)	Waterbury	Cable-Nonmetallic Sheathed			
Rostand Mfg Co The (Ecclesiastical Brass Ware)	Milford	General Electric Company	Bridgeport		
Scovill Manufacturing Company (to order)	Waterbury 91				
Western Brass Mills Division of Olin Industries Inc (to order)	New Haven				

IT'S MADE IN CONNECTICUT

Chemical Manufacturing		Concrete Products		Counting Devices	
Carwin Company The	North Haven	Plastricrete Corp	Hamden	Veeder-Root Inc	Hartford
Chemicals		Cones		Couplings—Self-Sealing	
American Cyanamid Company	Waterbury	Sonoco Products Co (Climax-Lowell Div)	Mystic	Sperry Products Inc	Danbury
Apothecaries Hall Co	Waterbury	Consulting Engineers		Cranes and Conveyors	
Carwin Company The	North Haven	Stanley P Rockwell Co Inc The (Consulting)	Hartford	I-B Engineering Sales Co	New Haven
Edclaw Laboratories	South Norwalk	296 Homestead Ave		Crushers	
Macalaster Ricknell Company	New Haven	Continuous Mill Gages		Farrel-Birmingham Company Inc (Stone and Ore)	(Stone and Ansonia)
MacDermid Incorporated	Waterbury	Pratt & Whitney Div Niles-Bement-Pond Co	West Hartford	Cups—Paper	
Naugatuck Chemical Division	United States	Contract Machining		American Paper Goods Company The ("Puritan")	Kensington
Rubber Co	Naugatuck	Malleable Iron Fittings Company	Brantford	Cushioning for Packaging	
New England Lime Company	Canaan	Contract Manufacturers		Gilman Brothers Co The	Gilman
Pfizer & Co Inc Chas	Groton	American Associates Mfg Corp (metal stampings & assemblies)	Deep River	Cut Stone	
Chemicals—Agriculture		Greist Mfg Co The (metal parts and assemblies)	New Haven	Dextone Co The	New Haven
Naugatuck Chemical Division United States	United States	503 Blake St		Cutters	
Rubber Co (insecticides, fungicides, weed killers)	Naugatuck	Merriam Mfg Co (production runs—metal boxes and containers to specifications)	Durham	Barnes Tool Company The (pipe cutters, hand)	New Haven
Chemicals—Aromatic		Plume & Atwood Mfg Co The (metal parts & assemblies)	Waterbury	Mitrametric Co The (ground pinion)	Torrington
Naugatuck Chemical Division United States	Naugatuck	Scovill Manufacturing Company (metal parts and assemblies)	Waterbury 91	Pratt & Whitney Div Niles-Bement-Pond Co (Milling Cutters all types)	West Hartford
Rubber Co		J H Sessions & Son	Bristol	Decorative Plating and Polishing	
Chemicals—Rubber		Controllers		City Plating Works Inc	Bridgeport
Robert J King Company Inc The	Norwalk	Bristol Company The	Waterbury	Delayed Action Mechanism	
Christmas Light Clips		Manning Maxwell & Moore Inc	Stratford	M H Rhodes Inc	Hartford
Foursome Manufacturing Co	Bristol	Conveyor Systems		R W Cramer Company Inc The	Centerbrook
Chromium Plating		Leeds Electric & Mfg Co The	East Haven	Demineralizers	
American Associates Mfg Corp	Deep River	Production Equipment Co	Meriden	Crystal Research Laboratories	Hartford
Chromium Corp of America	Shelton	Copper		Diamonds—Industrial	
Chromium Process Company The	Bridgeport	American Brass Corp The (sheet, wire, rods, tubes)	Waterbury	Diamond Tool and Die Works	Hartford
City Plating Works Inc		Bridgeport Brass Company (sheet, rod, wire and tubing)	Bridgeport	Dictating Machines	
Chucks		Bristol Brass Corp The (steel)	Bristol	Dictaphone Corporation	Bridgeport
Cushman Chuck Co The	Hartford	Chase Brass & Copper Co (sheet, rod, wire tube)	Waterbury	Gray Manufacturing Company The	Hartford
Jacobs Manufacturing Co The	West Hartford	Thinsheet Metals Co The (sheets and rolls)	Waterbury	Soundsciber Corporation The	New Haven
Union Manufacturing Company	New Britain	Western Brass Mills Division of	New Haven	Die Castings	
Chucks—Drill		tries Inc (sheet, strip)		Newton-New Haven Co Inc	New Haven
Jacobs Manufacturing Co The	West Hartford	Copper Sheets		Die Casting Dies	
Chucks & Face Plate Jaws		American Brass Company The	Waterbury	ABA Tool & Die Co	Manchester
Union Mfg Co	New Britain	New Haven Copper Co The	Seymour	Parker Stamp Works Co The	Hartford
Chucks—Power Operated		Copper Shingles		Weimann Bros Mfg Co The	Derby
Cushman Chuck Co The	Hartford	New Haven Copper Co The	Seymour	Die Castings (Aluminum & Zinc)	
Union Manufacturing Company	New Britain	Copper Water Tube		Stewart Die Casting Div Stewart Warner Corp	Bridgeport
Clay		American Brass Company The	Waterbury	Die-Heads—Self Opening	
Howard Company (Fire Howard "B" and High Temperature Dry)	New Haven	Bridgeport Brass Co	Bridgeport	Eastren Machine Screw Corp The Truman & Barclay Sts	New Haven
Cleaning Compounds		Cords—Asbestos		Die Polishing Machinery	
Enthone Inc (Industrial)	New Haven	General Electric Company	Bridgeport	Hartford Special Machinery Co The	Hartford
Cleansing Compounds		Cords—Braided		Die Sets	
MacDermid Incorporated	Waterbury	General Electric Company	Bridgeport	Pratt & Whitney Div Niles-Bement-Pond Co (Precision)	West Hartford
Clock Mechanisms		Cords—Heater		Producto Machine Company The	Bridgeport
Lux Clock Mfg Co The	Waterbury	General Electric Company	Bridgeport	Union Mfg Co (precision, steel and semi-steel)	New Britain
Clocks		Cords—Portable		Dies	
E Ingraham Co The	Bristol	General Electric Company	Bridgeport	Hoggson & Pettis Mfg Co The 141 Brewery St	New Haven
Seth Thomas Clocks	Thomaston	Cord Sets		Mitrametric Co The (ground for gears)	Torrington
United States Time Corporation The	Waterbury	Seegeer-Williams Inc	Bridgeport	Parker Stamp Works Inc The (plastics and die castings)	Hartford
Clocks—Alarm		Cord Sets—Electric		Pratt & Whitney Div Niles-Bement-Pond Co (Monocone and Ducone Dies)	West Hartford
Lux Clock Mfg Co The	Waterbury	General Electric Company	Bridgeport	Die Sinkers	
Clocks—Automatic Cooking		Cork Cots		Pratt & Whitney Div Niles-Bement-Pond Co	West Hartford
Lux Clock Mfg Co The	Waterbury	Sonoco Products Co (Climax-Lowell Div)	Mystic	Dies and Die Sinking	
Clutches		Corrugated Box Manufacturers		Consolidated Industries	West Cheshire
Snow-Nahstedt Gear Corp The	New Haven	Connecticut Container Corporation	New Haven	Dish Drying Machines	
Clutch Facings		Corrugated Shipping Cases		Colt's Manufacturing Company	Hartford
Russell Mfg Co The	Middletown	Connecticut Container Corporation	New Haven	Dish Washing Machines	
Clutch—Friction		Connecticut Corrugated Box Div Robert Gair Co Inc	Portland	Colt's Manufacturing Company	Hartford
Raybestos Div of Raybestos-Manhattan Inc The (clutch facings—molded, woven, fabric, metallic)	Bridgeport	D L & D Container Corp 87 Shelton Ave	New Haven	Displays—Metal	
Colls		Cosmetic Containers		Merriam Mfg Co (Contract Work to Individual Specifications)	Individual Durham (Advt.)
Dano Electric Company	Winsted	Evelet Specialty Co The	Waterbury		
Colls—Electric		Plume & Atwood Mfg Co The (metal)	Waterbury		
Bittermann Electric Company	Canaan	Cosmetics			
Colls—Pipe or Tube		J B Williams Co The	Glastonbury		
National Pipe Bending Co The	New Haven	Cotton and Asbestos Wicking			
Whitlock Manufacturing Co The	Hartford	Bland Burner Co The	Hartford		
Coin Tokens		Cotton Yarn			
Waterbury Companies Inc	Waterbury	Floyd Cranska Co The	Moosup		
Commercial Heat Treating					
A F Holden Company The	West Haven				
Commercial Truck Bodies					
Metropolitan Body Company	Bridgeport				
Comparators					
Pratt & Whitney Div Niles-Bement-Pond Co (Electro-limit and Air-O-Limit)	West Hartford				
Compressors					
Norwalk Company Inc (high pressure air and gas)	South Norwalk				

I T ' S M A D E I N C O N N E C T I C U T

Door Closers		Electric Switches		Envelopes—Stock and Special	
P & F Corbin Division The	American Hard-	Arrow-Hart & Hegeman Electric Co The	The	American Paper Goods Company The	Kensington
ware Corp	New Britain	General Electric Company	Bridgeport		
Sargent & Company	New Haven			Extractors—Tap	
Yale & Towne Mfg Co The	Stamford			Walton Company The	West Hartford
Dowel Pins		Electric Time Controls		Eyelets	
Allen Manufacturing Co The	Hartford	R W Cramer Company Inc The	Centerbrook	American Brass Company The	Waterbury
Holo-Krome Screw Corp The	West Hartford			Platt Bros & Co The P O Box 1030	Waterbury
Drafting Accessories		Electric Timers		Plume & Atwood Mfg Co The	Waterbury
Joseph Merritt & Co	Hartford	Sessions Clock Co The (small)	Forestville	Scovill Manufacturing Company	Waterbury 91
Drilling Machines		Electric Timing Motors		Eyelets, Ferrules and Wiring Terminals	
Pratt & Whitney Div Niles-Bement-Pond Co	West Hartford	General Electric Company	Bridgeport	American Brass Company The	Waterbury
(Deep Hole)		Rockbestos Products Corp (asbestos insulated)	New Haven	Waterbury Companies Inc	Waterbury
Drilling and Tapping Machinery		Electric Wire		Eyelet Machine Products	
Hartford Special Machinery Co The	Hartford	Arrow-Hart & Hegeman Electric Co The	The	Ball & Socket Mfg Co The	West Cheshire
Drop Forgings		General Electric Company	Bridgeport	American Brass Company The	Waterbury
Atwater Mfg Co	Plantsville			Fabricated Alloys	
Blakeslee Forging Company The	Plantsville	Electrical Circuit Breakers		Rolock Inc (Heat Treating, Finishing)	Fairfield
Bridgeport Hdwe Mfg Corp The	Bridgeport	Federal Electric Products Co Inc	Hartford	Fancy Dress Buttons and Buckles	
Capewell Mfg Company	Hartford	Electrical Conduit Fittings & Grounding Specialties		Waterbury Companies Inc	Waterbury
Consolidated Industries	West Cheshire	Gillette-Vibber Company The	New London	Fans—Electric	
Wilcox Crittenden & Co Inc	Middletown	Electrical Control Apparatus		General Electric Company	Bridgeport
Druggists' Rubber Sundries		Federal Electric Products Co Inc	Hartford	Fasteners—Slide & Snap	
Seamless Rubber Company The	New Haven	A C Gilbert Co	New Haven	G E Prentice Mfg Co The	Kensington
Duplicating Machines—Automatic		Electrical Goods		Scovill Manufacturing Company (snap and slide fasteners)	Waterbury 91
Pratt & Whitney Div Niles-Bement-Pond Co	West Hartford	Electrical Motors		Felt	
Elastic Webbing		U S Electrical Motors Inc	Milford	Auburn Manufacturing Company The (mechanical, cut parts)	Middletown
Russell Mfg Co The	Middletown	Electrical Outlet and Switch Boxes, and Covers		Drycor Felt Company (paper makers and industrial)	Staffordville
Electric Cables		General Electric Company	Bridgeport	Felt—All Purpose	
Rockbestos Products Corp (asbestos insulated)	New Haven	Electrical Recorders		American Felt Co (Mill & Cutting Plant)	Glenville
Electric Clocks		Bristol Co The	Waterbury	Chas W House & Sons Inc (Mills & Cutting Plant)	Unionville
Sessions Clock Co The (alarm, kitchen, occasional and office)	Forestville	Electrical Relays and Controls		Fenders—Boat	
Electric—Commutators & Segments		Allied Control Co	Plantsville	Sponge Rubber Products Co Inc	Shelton
Cameron Elec Mfg Co The (rewinding motors)	Ansonia	Electrical Wiring Systems		Fibre Board	
Electric Cord Springs		Wiremold Co The	Hartford	Case Brothers Inc	Manchester
Bristol Spring Manufacturing Co	Plainville	Electronics		C H Norton Co The	North Westchester
Electric Cords		Gray Manufacturing Company The	Hartford	Stevens Paper Mills Inc The	Windsor
General Electric Company	Bridgeport	Ripley Co	Middletown	Finger Nail Clippers	
Rockbestos Products Corp (asbestos insulated)	New Haven	Sturup Larrabee & Warmers Inc	Middletown	H C Cook Co The	32 Beaver St Ansonia
Electric Eye Control		Electroplating		File Cards	
United Cinephone Corporation	Torrington	American Associates Mfg Corp	Deep River	Standard Card Clothing Co The	Stafford Springs
Electric Fixture Wire		National Sherardizing & Machine Co	Hartford	Films	
General Electric Company	Bridgeport	Waterbury Plating Company	Waterbury	Cine-Video Productions Inc	Milford
Rockbestos Products Corp (asbestos insulated)	New Haven	Electroplating—Equipment & Supplies		Firearms	
Electric Hand Irons		Enthone Inc	New Haven	Colt's Manufacturing Company	Hartford
Winsted Hardware Mfg Co (trade mark "Durability")	Winsted	Lea Manufacturing Co The	Waterbury	Marlin Firearms Co The	New Haven
Electric Insulation		MacDermid Incorporated	Waterbury	O F Mosberg & Sons Inc	New Haven
Case Brothers Inc	Manchester	Electroplating Processes & Supplies		Remington Arms Company Inc	Bridgeport
Stevens Paper Mills Inc The	Windsor	Enthone Inc	New Haven	Winchester Repeating Arms Company Division	New Haven
Electric Lighting Fixtures		United Chromium Incorporated	Waterbury	Olin Industries Inc	New Haven
Fau-Craft Mfg Co (residential, church, post lanterns)	Plainville	Electrotypes		Fire Hose	
Plume & Atwood Mfg Co The	Waterbury	Barnum-Hayward Electrotypes Co Inc	New Haven	Fabrics Fire Hose (municipal and industrial)	Sandy Hook
Wasley Products Inc	Plainville	New Haven Electrotypes Div	New Haven	Fireplace Goods	
Electric Motor Controls		Elevators		American Windshield & Specialty Co The	Milford
Arrow-Hart & Hegeman Electric Co The	Hartford	Eastern Machinery Co The (passenger and freight)	New Haven	881 Boston Post Road	
Electrical Outlet and Switch Boxes, and Covers		General Elevator Service Co	Hartford	John P Smith Co The (screens)	423-33 Chapel St New Haven
General Electric Company	Bridgeport	Enameling		Fireproof Floor Joists	
Electric Panel Boards		Conn Metal Finishing Co	Hamden	Dextone Co The	New Haven
Federal Electric Products Co Inc	Hartford	Waterbury Plating Company	Waterbury	Fireworks	
Electric Safety Switches		Enameling and Finishing		M Backes' Sons Inc	Wallingford
Federal Electric Products Co Inc	Hartford	Claireglow Mfg Co	Portland	Fishing Tackle	
Electric Shavers		Baer Brothers	Stamford	Bevin-Wilcox Line Co The (lines)	East Hampton
Schick Incorporated	Stamford	End Milling Cutters		H C Cook Co The 32 Beaver St	Ansonia
Electric Signs		Pratt & Whitney Div Niles-Bement-Pond Co	West Hartford	Horton Mfg Co The (reels, rods, lines)	Bristol
Berger Sign Co	Hartford	Engines		Flashlights	
United Advertising Corp	New Haven	Pratt & Whitney Aircraft Div	East Hartford	Rond Electric Corporation Division of Olin Industries Inc	New Haven
		Corp (aircraft)		Bridgenort Metal Goods Mfg Co	Bridgeport
		Wolverine Motor Works Inc (diesel stationary marine)	Bridgeport	Winchester Repeating Arms Company Division	New Haven
		Envelopes		Olin Industries Inc	New Haven
		Curtis 1000 Inc	Hartford	Flat Springs	
		United States Envelope Company	Hartford	Bristol Spring Manufacturing Co	Plainville
		Hartford Division	Hartford	Flexible Shaft Machines	
				Pratt & Whitney Div Niles-Bement-Pond Co	West Hartford
					(Advt)

IT'S MADE IN CONNECTICUT

Floor & Ceiling Plates
Beaton & Cadwell Mfg Co The New Britain

Fluorescent Lighting Equipment
Vanderman Manufacturing Co The Willimantic
Wiremold Company The Hartford

Food Mixing Machines
Colt's Manufacturing Company Hartford

Forgings
Clark Brothers Bolt Co Milldale
Consolidated Industries Inc West Cheshire
Heppenstall Co (all kinds and shapes) Bridgeport
Scovill Manufacturing Company Waterbury 91

Foundries
Connecticut Malleable Castings Co (malleable iron castings) New Haven
Farrel-Birmingham Company Inc (Iron and Steel) Ansonia
Charles Parker Company The (iron, brass, bronze, aluminum) Meriden
Plainville Casting Company (gray, alloy and high tensile iron) Plainville
Prospect Machine Company The Bridgeport
Sessions Foundry Co The (iron) Bristol
Stamford Casting Company Inc (Aluminum, Magnesium and Bronze) Stamford
Stonington Div of Emhart Manufacturing Co Stonington
Union Mfg Co (gray iron & semi steel) New Britain
Wilcox Crittenden & Co Inc (iron, brass, aluminum and bronze) Middletown

Foundry Riddles
John P Smith Co The 423-33 Chancel St New Haven
Rolock Inc (brass, galvanized steel) Fairfield

Fuel Oil Pump and Heater Sets
Peabody Engineering Corporation Stamford

Furnaces
Norwalk Airconditioning Corp The (warm air oil fired) South Norwalk

Furnace Linings
Mullite Refractories Co The (refractories, super refractories) Shelton

Fuses—Plug and Cartridge
General Electric Company Bridgeport

Gage Blocks
Pratt & Whitney Div Niles-Bement-Pond Co (Alloy steel and Carbide, Hoke and USA) West Hartford

Galvanizing
Malleable Iron Fittings Co Branford
Wilcox Crittenden & Co Inc Middletown

Galvanizing & Electrical Plating
Gillette-Vilber Co The New London

Gaskets
Auburn Manufacturing Company The (from all materials) Middletown
Raybestos Div of Raybestos-Manhattan Inc The Bridgeport
Taingris Die Cutting Corp (from all materials) Waterbury

Gas Range Conversion Burner
Holyoke Heater Corp of Conn., Inc Hartford

Gas Scrubbers, Coolers and Absorbers
Peabody Engineering Corporation Stamford

Gauges
Bristol Co The (pressure and vacuum—recording automatic control) Waterbury
Helicoid Gage Division American Chain & Cable Co The (pressure and vacuum) Bridgeport

Gears
Manning Maxwell & Moore Inc Stratford
Pratt & Whitney Div Niles-Bement-Pond Co (Precision Measurement, all types) West Hartford

Gears
Mitrametric Co The (blanked fine pitch) Torrington

Gears and Gear Cutting
Farrel-Birmingham Company Inc Ansonia
Hartford Special Machinery Co The Hartford

Glass Blowing
Macalaster Bicknell Company New Haven

Glass Cutters
Fletcher-Terry Co The Forestville

Glass Making Machinery
Hartford-Empire Company Div of Emhart Manufacturing Co Hartford

Golf Equipment
Horton Mfg Co The (clubs, shafts, balls, bags) Bristol

Greeting Cards
A D Steinbach & Sons Inc New Haven

Grinding
Centerless Grinding Co Inc The (Precision custom grinding; centerless, cylindrical, surfaces, internal and special) 19 Staples St Bridgeport

Farrel-Birmingham Company Inc (Roll and Cylindrical) Ansonia
Hartford Special Machinery Co The (gears, threads, cams and splines) Hartford

Grinding Heads—Internal
Pratt & Whitney Div Niles-Bement-Pond Co (Pneumatic, High Speed) West Hartford

Grinding Machines
Farrel-Birmingham Company Inc (Roll) Ansonia

Pratt & Whitney Div Niles-Bement-Pond Co (Surface, Die, Gear and Cutter Grinders) West Hartford

Rowbottom Machine Company Inc (cam) Waterbury

Grommets
American Brass Company The Waterbury
Plume & Atwood Mfg Co The Waterbury

Guards for Machinery
Wheeler Co The G E New Haven

Hack and Band Saw Blades
Capewell Manufacturing Co The Hartford

Hand Tools
Bridgeport Hdwe Mfg Corp The (nail pullers, scout axes, box opening tools, trowels, coping saws, putty knives) Bridgeport
James J Ryan Tool Works The (screwdrivers, machinists' punches, cold chisels, scratch awls and nail sets) Southington

Hard Chrome
City Plating Works Inc Bridgeport

Hardness Testers
Wilson Mechanical Instrument Div American Chain & Cable Company Inc Bridgeport

Hardware
Rassick Company The (Automotive) Bridgeport
Harloc Products Corp New Haven
P & F Corbin Division The American Hardware Corp (builders) New Britain
Sargent & Company New Britain
Wilcox Crittenden & Co Inc (marine heavy and industrial) Middletown
Yale & Towne Mfg Co The Stamford

Hardware—Marine & Bus
Rostand Mfg Co The Milford

Hardware—Trailer Cabinet
Excelair Hardware Co The Stamford

Hardware, Trunk & Luggage
J H Sessions & Son Bristol
Yale & Towne Mfg Co The Stamford

Hat Machinery
Doran Bros Inc Danbury

Health Surgical & Orthopedic Supports
Berger Brothers Company The (custom made for back, breast, and abdomen) New Haven

Heat Exchangers
Whitlock Manufacturing Co The Hartford

Heat Elements
Safeway Heat Elements Inc (woven wire resistance type) Middletown

Heat Treating
A F Holden Co The 52 Richard St West Haven
Bennett Metal Treating Co The Elmwood
1045 New Britain Ave Elmwood
New Britain-Gridley Machine Division New Britain
The New Britain Machine Co New Britain
Stanley P Rockwell Co Inc The 296 Homestead Ave Hartford

Heat-Treating Equipment
Bauer & Company Hartford
A F Holden Company The 52 Richard Street West Haven (Main Plant)

Autovye Company The Oakville
Rolock Inc (Baskets, Muffles, etc.) Fairfield
Stanley P Rockwell Co Inc The (commercial) Hartford
296 Homestead Ave Hartford
Wallace Barnes Co The Div Associated Spring Corp Bristol

Heat Treating Fixtures
Wiretex Mfg Co Inc Bridgeport

Heat Treating Salts and Compounds
A F Holden Company The 52 Richard Street West Haven
Mitchell-Bradford Chemical Co Bridgeport

Heating and Cooling Coils
G & O Manufacturing Co New Haven

Heavy Chemicals
Naugatuck Chemical Division United States Rubber Co (sulphuric, nitric and muriatic acids and aniline oil) Naugatuck

Hex-Socket Screws
Bristol Company The Waterbury
Holo-Krome Screw Corp The West Hartford

Highway Guard Rail Hardware
Malleable Iron Fittings Co Branford

Hinges
Homer D Bronson Company Beacon Falls

Hobs and Hobbings
ABA Tool & Die Co Manchester
Pratt & Whitney Div Niles-Bement-Pond Co (Die and Thread Milling) West Hartford

Holsts
J-B Engineering Sales Co New Haven

Holsts and Trolleys
Union Mfg Company New Britain

Home Laundry Equipment
General Electric Company Bridgeport

Hose—Flexible Metallic
American Brass Co Waterbury
American Metal Hose Branch Waterbury

Hose Supporter Trimmings
Hawie Mfg Co The (So-Lo Grip Tabs) Bridgeport

Hospital Signal Systems
Conn Telephone & Electric Corp Subsidiary of Great American Industries Inc Meriden

Hydraulic Brake Fluids
Eis Manufacturing Co Middletown

Hydraulic Controls
Sperry Products Inc Danbury

Hypodermic Needles
Roehr Products Company Waterbury

Inductors
C G S Laboratories Inc Stamford

Industrial Finishes
Atlas Powder Co Zapon Div Chemical Coatings Corporation Stamford
United Chromium Incorporated Rocky Hill Waterbury

Industrial Tools—Powder Actuated
Remington Arms Company Inc Bridgeport

Infra-Red Equipment
Leeds Electric and Mfg Co The Hartford

Insecticides
American Cyanamid Company Waterbury

Insecticide Bomb
Bridgeport Brass Company (Aer-a-sol) Bridgeport

Insulated Wire & Cable
General Electric Company Bridgeport
Kerite Company The Seymour

Insulated Wire & Cable Machinery
Davis Electric Company Wallingford

Instruments
Bristol Company The Waterbury
J-B-T Instruments Inc (Electrical and Temperature) New Haven
Manning Maxwell & Moore Inc Stratford
Pratt & Whitney Div Niles-Bement-Pond Co (Precision Measuring) West Hartford

Insulation
Gilman Brothers Co The Gilman (Adv.)

I T ' S M A D E I N C O N N E C T I C U T

Inter-Communications Equipment
Conn Telephone & Electric Corp Subsidiary of
Great American Industries Inc Meriden

Interval Timers
Lux Clock Manufacturing Company Waterbury
Rhodes Inc M H Hartford

Ironing Machines—Electric
General Electric Company Bridgeport

Jacquard
Case Brothers Inc Manchester

Japanning
J H Sessions & Son Bristol

Jig Borer
Moore Special Tool Co (Moore) Bridgeport
Pratt & Whitney Div Niles-Bement-Pond Co West Hartford

Jig Grinder
Moore Special Tool Co (Moore) Bridgeport

Jointing
Raybestos Div of Raybestos-Manhattan Inc The
(compressed sheets) Bridgeport

Keller Machines
Pratt & Whitney Div Niles-Bement-Pond Co West Hartford

Key Blanks
Sargent & Company New Haven
Yale & Towne Mfg Co The Stamford

Labels
J & J Cash Inc (Woven) South Norwalk
Naugatuck Chemical Division United States
Rubber Co (for rubber articles) Naugatuck

Label Moisteners
Better Packages Inc Shelton

Laboratory Equipment
Eastern Industries Inc New Haven

Laboratory Supplies
Macalaster Bicknell Company New Haven

Laces
Wilcox Lace Corporation The Middletown

Laces and Nettings
Wilcox Lace Corporation The Middletown

Lacquers & Synthetic Enamels
Atlas Powder Co Zapon Div Stamford
Baer Brothers Stamford
Chemical Coatings Corporation Rocky Hill
United Chromium Incorporated Waterbury

Ladders
A W Flint Co 196 Chapel St New Haven

Lamps
Plume & Atwood Mfg Co The (metal oil) Waterbury

Lampholders—Incandescent and Fluorescent
General Electric Company Bridgeport

Lamp Shades
Verplex Company The Essex

Lathes—Contin-U-Matic
Bullard Company The (vertical multi-spindle-continuous turning type) Bridgeport

Lathes—30H Man-Au-Trol
Bullard Company The (horizontal 3 spindle) Bridgeport

Lathes—Mult-Au-Matic
Bullard Company The (vertical multi-spindle-indexing type) Bridgeport

Lathes—Toolroom and Automatic
Pratt & Whitney Div Niles-Bement-Pond Co West Hartford

Lathes—Vertical Turret
Bullard Company The (single spindle) Bridgeport

Laundry Roll Covers
Atlas Powder Co Zapon Div Stamford

Lead Plating
Christie Plating Co The Groton

Leather
Herman Roser & Sons Inc (Genuine Pigskin) Glastonbury

Leather Dog Furnishings
Andrew B Hendryx Co The New Haven
The Smith-Worthington Saddlery Co Hartford

Leather Goods Trimmings
G E Prentice Mfg Co The Kensington

Leather, Mechanical
Auburn Manufacturing Company The (pack-ings, cubs, washers, etc) Middletown

Letterheads
Lehman Brothers Inc (designers, engravers, lithographers) New Haven

Lighting Accessories—Fluorescent
General Electric Company Bridgeport

Lighting Equipment
Miller Co The (Miller, Duplexalite, Ivanhoe) Meriden
United Manufacturing Co New Haven

Lime
New England Lime Company Canaan

Lipstick Containers
Bridgeport Metal Goods Mfg Co Bridgeport

Lithographers
O'Toole & Sons Inc T Stamford

Lithographing
Kellogg & Bulkeley A Division of Connecticut
Printers Inc Hartford
Lehman Brothers Inc New Haven
A D Steinbach & Sons New Haven

Locks—Banks
Yale & Towne Mfg Co The Stamford

Locks—Builders
Eagle Lock Co The Terryville
P & F Corbin Division The American Hard-ware Corp New Britain
Sargent & Company New Haven
Yale & Towne Mfg Co The Stamford

Locks—Cabinet
Eagle Lock Co The Terryville
Excelsior Hardware Co The Stamford
Yale & Towne Mfg Co The Stamford

Locks—Special Purpose
Eagle Lock Co The Terryville
Yale & Towne Mfg Co The Stamford

Locks—Suitcase
Eagle Lock Co The Terryville

Locks—Suit-Case and Trimmings
Excelsior Hardware Co The Stamford

Locks—Trunk
Eagle Lock Co The Terryville
Excelsior Hardware Co The Stamford
Yale & Towne Mfg Co The Stamford

Locks—Zipper
Excelsior Hardware Co The Stamford

Loom—Non-Metallic
Wiremold Company The Hartford

Lumber & Millwork Products
City Lumber Co of Bridgeport Inc Bridgeport

Machetes
Collins Company The Collinsville

Machine Design
Black Rock Mfg Company The Bridgeport

Machine Tools
Bullard Company The Bridgeport
Pratt & Whitney Div Niles-Bement-Pond Co West Hartford
Producto Machine Company The Bridgeport

Machine Work
Black Rock Mfg Company The Bridgeport
Farrel-Birmingham Company Inc Ansonia
Fenn Manufacturing Company The (precision parts) Hartford
Hartford Special Machinery Co The (contract work only) Hartford
National Sherardizing & Machine Co (job) Hartford
Parker Stamp Works Inc The (Special) Hartford

Swan Tool & Machine Co The
Torrington Manufacturing Co The (special roll-ing mill machinery) Torrington

Machinery
Fenn Manufacturing Company The (special) Hartford
Globe Tapping Machine Company (dial type) Bridgeport
Hallden Machine Company The (mill) Thomaston
Torrington Manufacturing Co The (mill) Torrington

Machinery—Bolt and Nut
Waterbury Farrel Foundry & Machine Co The Waterbury

Machinery—Cold Heading
Waterbury Farrel Foundry & Machine Co The Waterbury

Machinery Dealers & Rebuilders
Botwinik Brothers New Haven
J L Lucas and Son Fairfield
State Machinery Co Inc New Haven

Machinery—Extruding
Standard Machinery Co The Mystic

Machinery—Metal-Working
Waterbury Farrel Foundry & Machine Co The Waterbury
Pratt & Whitney Div Niles-Bement-Pond Co West Hartford

Machinery—Nut
Waterbury Farrel Foundry & Machine Co The (forming and tapping) Waterbury

Machinery—Screw and Rivet
Waterbury Farrel Foundry & Machine Co The Waterbury

Machinery—Wire Drawing
Waterbury Farrel Foundry & Machine Co The Waterbury

Machinery—Wire Straightening
Mettler Machine Tool Inc New Haven

Machines
Campbell Machine Div American Chain & Cable Co Inc (cutting & nibbling) Bridgeport
Coulter & McKenzie Machine Co The (special, new development engineering design and construction) Bridgeport
Patent Button Company The Waterbury

Machines—Automatic
A H Nilson Mach Co The (Special) Bridgeport

Machines—Automatic Chucking
Bullard Company The Bridgeport
New Britain-Gridley Machine Division
The New Britain Machine Co (multiple spindle and double end) New Britain
Pratt & Whitney Div Niles-Bement-Pond Co (Potter & Johnson) West Hartford

Machines—Automatic Screw
New Britain-Gridley Machine Division
The New Britain Machine Co (single and multiple spindle) New Britain

Machines—Automatic Shaft Turning
Bullard Company The (30H lathe—horizontal 3 spindle) Bridgeport

Machines—Brushing
Fuller Brush Co The Hartford

Machines—Conveyor
Bullard Company The (Bullard-Dunn rotary conveyor indexing type) Bridgeport

Machines—Contin-U-Matic
Bullard Company The (vertical multi-spindle-continuous turning) Bridgeport

Machines—Draw Benches
Fenn Manufacturing Company The Hartford

Machines—Drill Spacing
Bullard Company The (Man-Au-Trol spacer—used in conjunction with radical drills) Bridgeport

Machines—Drop Hammers
Fenn Manufacturing Company The Hartford

Machines—Forming
A H Nilson Mach Co The (four-slide wire and ribbon stock) Bridgeport

Machines—Mult-Au-Matic
Bullard Company The Bridgeport

Machines—Paper Ruling
John McAdams & Sons Inc Norwalk

Machines—Pipe & Bolt Threading
Capewell Mfg Co The Hartford
(Adv.)

IT'S MADE IN CONNECTICUT

Machines—Precision Boring
New Britain-Gridley Machine Division
The New Britain Machine Co New Britain

Machines—Rolling
Fenn Manufacturing Company The Hartford

Machines—Slotting
Globe Tapping Machine Company The (High Production Screw Head Slotting) Bridgeport
Waterbury Farrel Foundry & Machine Co The (screw head) Waterbury

Machines—Special
Fuller Brush Co The Hartford

Machines—Swaging
Fenn Manufacturing Company The Hartford

Machines—Thread Rolling
Hartford Special Machinery Co The Hartford
Waterbury Farrel Foundry & Machine Co The Waterbury

Machines—Turks Head
Fenn Manufacturing Company The Hartford

Machines—Well Drilling
Consolidated Industries West Cheshire

Machines—Wire Drawing
Fenn Manufacturing Company The Hartford

Magnesium
Stamford Casting Company Inc (Magnesium, Aluminum and Bronze Castings) Stamford

Mailing Machines
Pitney-Bowes Inc Stamford

Manicure Instruments
W E Bassett Company The Derby

Manganese Bronze Ingot
Whipple and Choate Company Bridgeport

Marine Engines
Kilborn-Sauer Company (running lights and searchlights) Fairfield
Lathrop Engine Co The Mystic

Marine Equipment
Wilcox Crittenden & Co Inc Middletown

Marine Reserve Gears
Snow-Nabstedt Gear Corp The New Haven

Marking Devices
Hoggson & Pettis Mfg Co The New Haven
Parker Stamp Works Inc The (steel) Hartford

Mattresses
Waterbury Mattress Co Waterbury

Mechanics Hand Tool
Bridgeport Hdwe Mfg Corp The (screw drivers, wrenches, pliers, cold chisels, hammers, auto repair tools) Bridgeport

Metal Boxes and Displays
Durham Manufacturing Company The Durham
Merriam Mfg Co (Bond, Security, Cash, Utility, Personal Files, Drawer Safes, Custombuilt containers and displays) Durham

Metal Cleaners
Apothecaries Hall Co Waterbury
Enthone Inc New Haven
MacDermid Incorporated Waterbury

Metal Cleaning Machines
Colt's Manufacturing Company Hartford

Metal Finishes
Enthone Inc New Haven
Mitchell-Bradford Chemical Co Bridgeport
United Chromium Incorporated Waterbury

Metal Finishing
American Associates Mfg Corp Deep River
National Sherardizing & Machine Co Waterbury
Waterbury Plating Company Waterbury

Metalizing
Conn Metal Finishing Co Hamden

Metal Novelties
H C Cook Co The 32 Beaver St Ansonia

Metal Products—Stampings
American Brass Company The Waterbury
J H Sessions & Son Bristol
Scovill Manufacturing Company (Made-to-Order) Waterbury 91

Metal Specialties
Excelsior Hardware Co The Stamford

Metal Stampings
American Associates Mfg Corp Deep River
American Brass Company The Waterbury
Autoyre Co The (Small) Oakville
Bridgeport Chain & Mfg Co Bridgeport
DooVal Tool & Mfg Inc The Naugatuck
Excelsior Hardware Co The Stamford
Greist Mfg Co The 503 Blake St New Haven
H C Cook Co The 32 Beaver St Ansonia
J A Otterbein Company The (metal fabrications) Middletown
J H Sessions & Son Bristol
Patent Button Co The Waterbury
G E Prentice Mfg Co The Kensington
Plume & Atwood Mfg Co The Waterbury
Saling Manufacturing Company Unionville
Stanley Works The New Britain
Swan Tool & Machine Co The Hartford
United States Rubber Company Shoe Hardware Division Waterbury
Verplex Company The (Contract) Essex
Waterbury Lock & Specialty Co The Milford

Meters—Gas
Sprague Meter Company Bridgeport

Meters—Parking
Rhodes Inc M H Hartford

Microfilming
American Microfilming Service Company New Haven

Microscope—Measuring
Lundberg Engineering Company Hartford

Milk Bottle Carriers
John P Smith Co The 423-33 Chapel St New Haven

Millboard
Raybestos Div of Raybestos-Manhattan Inc The (asbestos) Bridgeport

Millwork
Hartford Builders Finish Co Hartford

Milling Machines
Pratt & Whitney Div Niles-Bement-Pond Co (Keller Tracer—Controlled Milling Machines) West Hartford
Rowbottom Machine Company Inc (cam) Waterbury

Mill Supplies
Wilcox Crittenden & Co Inc Middletown

Miniature Precision Connectors
Gorn Electric Co Stamford

Minute Minders
Lux Clock Mfg Co The Waterbury

Mirror Rosettes and Hangers
Waterbury Companies Inc Waterbury

Mixing Equipment
Eastern Industries Inc New Haven

Mops
Fuller Brush Co The Hartford

Moulded Plastic Products
Colt's Manufacturing Company Hartford
Patent Button Co The Waterbury
Waterbury Companies Inc Waterbury
Watertown Mfg Co The 117 Echo Lake Road Watertown

Mouldings
Himmel Brothers Co The (architectural, metal and store front) Hamden

Moulds
ABA Tool & Die Co Manchester
Hoggson & Pettis Mfg Co The (steel) New Haven
114 Brewery St New Haven
Lundberg Engineering Company (plastics) Hartford

Moulding
Parker Stamp Works Inc The (compression injection & transfer for plastics) Hartford
Sessions Foundry Co The (heat resisting for non-ferrous metals) Bristol

Napper Clothing
Standard Card Clothing Co The (for textile mills) Stafford Springs

Nettings
Wilcox Lace Corp The Middletown

Nickel Anodes
Apothecaries Hall Co Waterbury
Seymour Mfg Co The Seymour

Nickel Silver
American Brass Company The Waterbury
Plume & Atwood Mfg Co The Thomaston
Seymour Mfg Co The Seymour
Waterbury Rolling Mills Inc (sheets, strips, rolls) Waterbury
Western Brass Mills Division of Olin Industries Inc (sheet, strip) New Haven

Nickel Silver Ingot
Whipple and Choate Company The Bridgeport

Night Latches
P & F Corbin Division The American Hardware Corp New Britain
Sargent & Company New Haven
Yale & Towne Mfg Co Inc Stamford

Non-ferrous Metal Castings
Miller Company The Meriden

Nuts, Bolts and Washers
Clark Brothers Bolt Co Milldale

Office Equipment
Pitney-Bowes Inc Stamford
Underwood Corporation Bridgeport & Hartford

Offset Printing
Kellogg & Bulkeley A Division of Connecticut Printers Inc Hartford

Oil Burners
Malleable Iron Fittings Co (domestic) Branford
Miller Company The (domestic) Meriden
Peabody Engineering Corp (Mechanical and/or Steam Atomizer) Stamford
Silent Glow Oil Burner Corp The 1477 Park St Hartford

Oil Burner Wicks
Raybestos Div of Raybestos-Manhattan Inc The Bridgeport

Oil Tanks
Norwalk Tank Co The (550 to 30M gals, underwriters above and under ground) South Norwalk
Whitlock Manufacturing Co The Hartford

Optical Cores & Ingots
Plume & Atwood Mfg Co The Thomaston

Otts Woven Awning Stripes
The Falls Company Norwich

Outlets—Electric
General Electric Company Bridgeport

Ovens—Electric
Bauer & Company Hartford

Package Sealers
Better Packages Inc Shelton

Packaging
Local Industries Inc (merchandising displays and packaging in wood) Lakeville

Packaging Machinery
Colt's Manufacturing Company (box making machinery, Trade mark "Rite Size") Hartford
Standard-Knapp Division of Emhart Manufacturing Co Portland

Packing
Auburn Manufacturing Company The (leather, rubber, asbestos, fibre) Middletown
Raybestos Div of Raybestos-Manhattan Inc The (rubber sheet and automotive) Bridgeport

Pads—Office
The Baker Goodyear Company New Haven

Padlocks
Sargent & Company New Haven
Waterbury Lock & Specialty Co The Milford
Yale & Towne Mfg Co Inc Stamford

Paints
Baer Brothers Stamford

Paints and Enamels
Staminate Corp The New Haven

Panta
Moore Special Tool Co (crush wheel dresser) Bridgeport

Paperboard
Gair Company Inc Robert Montville
Robertson Paper Box Co Montville
New Haven Board and Carton Co The New Haven

Paper Boxes
Atlantic Carton Corp (folding) Norwich
Gair Co Inc Robert (folding) Montville
National Folding Box Co Inc (folding) New Haven

Paper Boxes—Folding and Setup
Bridgeport Paper Box Company Bridgeport
M Backes Sons Inc Wallingford

Paper Clips
H C Cook Co The (steel) 32 Beaver St Ansonia (Adv.)

I T ' S M A D E I N C O N N E C T I C U T

Paper Mill Machinery
Farrel-Birmingham Company Inc Ansonia

Paper Tubes and Cores
Sonoco Products Co (Climax-Lowell) Div Mystic

Parallel Tubes
Sonoco Products Co (Climax-Lowell) Div Mystic

Parkerizing
Clairglow Mfg Company Portland

Parking Meters
Rhodes Inc M H Hartford

Passenger Car Sander
Conn Telephone & Electric Corp Subsidiary of Meriden
Great American Industries Inc

Pattern-Makers
Farrel-Birmingham Company Inc Ansonia

Penlights
Bridgeport Metal Goods Mfg Co Bridgeport

Pet Furnishings
Andrew B Hendrix Co The New Haven

Pharmaceutical Specialties
Ernst Bischoff Company Inc Ivoryton

Phosphor Bronze
American Brass Company The Waterbury
Miller Company The (sheets, strips, rolls) Meriden

Phosphor Bronze Ingots
Whipple and Choate Company The Bridgeport

Photographic Equipment
Kalart Company Inc Plainville

Piano Repairs
Pratt Read & Co Inc (keys and action) Ivoryton

Piano Supplies
Pratt Read & Co (keys and actions, backs, plates) Ivoryton

Pile Fabrics
Sidney Blumenthal & Co Inc (For furniture, automobiles, railroads, women's wear, toys) Shelton

Plns
CEM Company ("Spirol") Danielson

Pin Up Lamps
Verplex Company The Essex

Pipe
American Brass Co The (brass and copper) Waterbury
Bridgeport Brass Co (brass and copper) Bridgeport

Pipe Fittings
Corley Co Inc Plainville
Malleable Iron Fittings Co Branford

Pipe Plugs
Holo-Krome Screw Corporation The (counter-sunk) West Hartford

Pipe Plugs—Socketed
Holo-Krome Screw Corp The West Hartford

Plastics
Naugatuck Chemical Division United States Rubber Co Naugatuck
Sponge Rubber Products Co Inc (expanded cellular) Shelton

Plastic Bottles
Plax Corporation, subsidiary of Emhart Manufacturing Co West Hartford

Plastic Buttons
Frank Parizek Manufacturing Co The West Willington

Plastic Gems
Colt's Manufacturing Company Hartford

Plastic Films and Sheet
Plax Corporation, subsidiary of Emhart Manufacturing Co West Hartford

Plastic Rod and Tubing
Plax Corporation, subsidiary of Emhart Manufacturing Co West Hartford

Plastic Materials
American Cyanamid Co (Molding Compounds, Adhesives, Laminating Resins) Wallingford

Plastics Machinery
Black Rock Mfg Company The Bridgeport
Farrel-Birmingham Company Inc Ansonia

Plastic—Moulders
Colt's Manufacturing Company Hartford
Conn Plastics Waterbury
General Electric Company Meriden
Geo S Scott Mfg Co The Wallingford
Waterbury Companies Inc Waterbury
Watertown Mfg Co The Watertown

Plastics—Moulds & Dies
Parker Stamp Works Inc The (for plastics) Hartford

Plasticrete Bloc
Plasticrete Corp Hamden

Plates—Switch
General Electric Company Bridgeport

Platers
American Metal Products Company Inc Bridgeport
Christie Plating Co Groton
City Plating Works Bridgeport
Patent Button Co The Waterbury
Waterbury Plating Company (Chromium) Waterbury
Chromium Process Company The (Plating only) Derby

Platers' Equipment
Apothecaries Hall Company Waterbury
Conn Metalcraft Inc New Haven
Lea Manufacturing Co The Waterbury
MacDermid Incorporated Waterbury

Platers Metal
Plume & Atwood Mfg Co The Thomaston

Plating
American Associates Mfg Corp Deep River
Christie Plating Co The (including lead plating) Groton
Conn Metal Finishing Co Hamden

Plating Processes and Supplies
Enthone Inc New Haven
United Chromium Incorporated Waterbury

Plumbers' Brass Goods
Bridgeport Brass Co Bridgeport
Keeney Mfg Co The (special bends) Newington
Scovill Manufacturing Company Waterbury 48

Plumbing Specialties
John M Russell Mfg Co Inc Naugatuck

Pole Line Hardware
Malleable Iron Fittings Co Branford

Police Equipment
The Smith-Worthington Saddlery Co Hartford

Polishing Wheels
Williamsville Buff Div The Bullard Clark Company Danielson

Poly Chokes
Poly Choke Company The (a shotgun choking device) Tariffville

Postage Meters
Pitney Bowes Inc Stamford

Potentiometers—Electronic
Bristol Company The Waterbury

Power Presses
Fenn Manufacturing Company The Hartford

Power Rollers
Consolidated Industries Inc West Cheshire

Powered Metal Products
American Sintered Alloys Inc Bethel
Waterbury Companies Inc Waterbury

Prefabricated Buildings
City Lumber of Bridgeport Inc The Bridgeport

Premium Specialties
Waterbury Companies Inc Waterbury

Preservatives—Wood, Rope, Fabric
Darworth Incorporated (Cuprinol and Cellusan) Simsbury

Press Papers
Case Brothers Inc Manchester

Presses
Farrel-Birmingham Company Inc (Hydraulic) Ansonia
Henry & Wright Div of Emhart Manufacturing Company Hartford

Presses—Molding
Standard Machinery Co The (compression and transfer molding, automatic and semi-automatic) Mystic

Presses—Power
Waterbury Farrel Foundry & Machine Co The Waterbury

Pressure Vessels
Norwalk Tank Co Inc The (unfired to ASME Code Par U 69-70) South Norwalk
Whitlock Manufacturing Co The Hartford

Printing
Case Lockwood & Brainard A Division of Connecticut Printers Inc Hartford
Finlay Brothers Hartford
Heminway Corporation The Waterbury
Hunter Press Hartford
Lehman Brothers Inc New Haven
Taylor & Greenough Co The Wethersfield
T B Simonds Inc Hartford

Printing—(Continued)
A D Steinbach & Sons New Haven
The Walker-Rackliff Company New Haven

Printing Machinery
Banthin Engineering Co (automatic) Bridgeport
Thomas W Hall Company Stamford

Printing Rollers
Chambers-Storck Company Inc The (engraved) Norwich

Production Control Equipment
United Cinephone Corporation Torrington

Production Welding
Consolidated Industries West Cheshire

Profilers
Pratt & Whitney Div Niles-Bement-Pond Co West Hartford

Propellers—Aircraft
Hamilton Standard Div United Aircraft Corp (propellers and other aircraft equipment) Windsor Locks

Protective Coatings
Harrison Company The A S (Waxes) South Norwalk

Publishers
O'Toole & Sons Inc T Stamford

Pumps
Yale & Towne Mfg Co The Stamford

Pumps—Small Industrial
Eastern Industries Inc New Haven

Pump Valves
Colt's Manufacturing Company Hartford

Punches
Hoggeson & Pettin Mfg Co The (ticket & cloth) 141 Brewery St New Haven

Putty Softeners—Electrical
Fletcher Terry Co The Box 415 Forestville

Pyrometers
Bristol Co The (recording and controlling) Waterbury

Radiation-Finned Copper
Bush Manufacturing Co West Hartford
G & O Manufacturing Company The New Haven

Radiators—Engine Cooling
Vulcan Radiator Co The (steel and copper) Hartford
G & O Manufacturing Co New Haven

Rayon Staple Fiber
Hartford Rayon Corp The Rocky Hill

Reamers
Pratt & Whitney Div Niles-Bement-Pond Co (All types) West Hartford

Recorders
Bristol Co The (automatic controllers, temperature, pressure, flow, humidity) Waterbury

Reduction Gears
Farrel-Birmingham Company Inc Ansonia
Snow-Nabstedt Gear Corp The New Haven

Refractories
Howard Company New Haven
Mullite Refractories Company The Shelton

Refrigeration
Bowser Technical Refrigeration Div Bowser Inc (high altitude, low temperature) Terryville

Regulators
Norwalk Valve Company (for gas and air) South Norwalk
Sorensen & Company Inc Stamford

Remote Control Wiring
General Electric Company Bridgeport

Resistance Wire
C O Jelliff Mfg Co The (nickel chromium, copper nickel, iron chromium, aluminum) Southport

Respirators
Kanthal Corporation The (Kanthal A-1, A, D, DS) Stamford

Retainers
American Optical Company Safety Division Putnam

Riveting Machines
Hartford Steel Ball Co The (bicycle & automotive) Hartford

Riveting Machines
Grant Mfg & Machine Co The Bridgeport
H P Townsend Manufacturing Co The Elmwood

Raybestos Div of The Ripley Co
Raybestos Div of Raybestos-Manhattan Inc The Torrington
(brake service equipment) Bridgeport (Advt.)

IT'S MADE IN CONNECTICUT

Rivets

Blake & Johnson Co The (brass, copper and non-ferrous) Waterville
Clark Brothers Bolt Co Milldale
Connecticut Manufacturing Company The Waterbury
Plume & Atwood Mfg Co The Waterbury
Raybestos Div of Raybestos-Manhattan Inc The (brass and aluminum tubular and solid copper) Bridgeport
Raybestos Div of Raybestos-Manhattan Inc The (iron) Bridgeport

Rods

American Brass Company The (copper, brass, bronze) Waterbury
Bristol Brass Corp The (brass and bronze) Bristol
Scovill Manufacturing Company (brass and bronze) Waterbury 91

Roller Skates

Winchester Repeating Arms Company Division Olin Industries Inc New Haven

Rolling Mills and Equipment

Farrel-Birmingham Company Inc Ansonia
Waterbury Farrel Foundry & Machine Co The Waterbury

Rolls

Farrel-Birmingham Company Inc (Chilled and Alloy Iron, Steel) Ansonia

Rope Wire

American Steel & Wire Div of U S Steel New Haven

Rubber Chemicals

Naugatuck Chemical Division United States Rubber Co Naugatuck
Stamford Rubber Supply Co The ("Factice" Vulcanized Vegetable Oils) Stamford

Rubber-Cellular

Sponge Rubber Products Co Inc Shelton

Rubber Cutting Machinery

Black Rock Mfg Company The Bridgeport

Rubberized Fabrics

Duro-Gloss Rubber Co The New Haven

Rubber Footwear

Goodyear Rubber Co The Middletown

Rubber Gloves

Seamless Rubber Company The New Haven

Rubber-Handmade Specialties

Seamless Rubber Company The New Haven

Rubber Latex Compounds and Dispersions

Naugatuck Chemical Division United States Rubber Co (coating, impregnating and adhesive compounds) Naugatuck

Rubber Mill Machinery

Farrel-Birmingham Company Inc Ansonia

Rubber-Molded Specialties

Canfield Co The H O Bridgeport
Seamless Rubber Company The New Haven

Rubber Products-Mechanical

Auburn Manufacturing Company The (washers, gaskets, molded parts) Middletown
Canfield Co The H O Bridgeport
Seamless Rubber Company The New Haven

Rubber-Reclaimed

Naugatuck Chemical Division United States Rubber Co Naugatuck

Rubber Vibration Pads

MB Manufacturing Company Inc The (and shock absorbing-Isomode) New Haven

Rubbish Burners

John P Smith Co The 423-33 Chapel St New Haven

Saddlery

The Smith-Worthington Saddlery Co Hartford

Safety Clothing

American Optical Company Safety Division Putnam

Safety Fuses

Ensign-Bickford Co The (mining & detonating) Simsbury

Safety Gloves and Mittens

American Optical Company Safety Division Putnam

Safety Goggles

American Optical Company Safety Division Putnam

Saw Blades-Hack

Capewell Mfg Co The Hartford

Saws-Metal & Wood Cutting Band

Capewell Mfg Co The Hartford

Saws, Band, Metal Cutting

Atlantic Saw Mfg Co New Haven

Scales-Industrial Dial

Kron Company The Bridgeport

Scissors

Acme Shear Company The Bridgeport

Screens

Hartford Wire Works Co The (Windows, Doors and Porches) Hartford

Screw Caps

Weimann Bros Mfg Co The (small for bottles) Derby

Screw Machine Accessories

Barnaby Manufacturing and Tool Co Bridgeport

Screw Machines

H P Townsend Mfg Company The Elmwood

Screw Machine Products

Apex Tool Co Inc The Bridgeport
Blake & Johnson Co The Waterville
Centerless Grinding Co Inc The (Heat treated and ground type only) Bridgeport
19 Staples Street
Connecticut Manufacturing Company The Waterbury

Consolidated Industries West Cheshire
Eastern Machine Screw Corp The New Haven
Truman & Barclay Sts
Fairchild Screw Products Inc Winsted
Franklin Screw Machine Co The (up to 1 1/4" capacity) Hartford
Greist Mfg Co The (Up to 1 1/4" capacity) New Haven

Groth Manufacturing Co Plainville
Humason Mfg Co The Forestville
Lowe Mfg Co The Wethersfield
National Automatic Products Company The Berlin

Nelson's Screw Machine Products Plantsville
New Britain Machine Company The New Britain
Olson Brothers Company (up to 3/4" capacity) Plainville

Olson & Sons R P Southington
Peck Spring Co The Plainville
Plume & Atwood Mfg Co The Waterbury
Scovill Manufacturing Company Waterbury 91
Wallace Metal Products Co Inc New Haven
Waterbury Machine Tools & Products Co (Brown & Sharpe and Davenport) Waterbury

Screw Machine Tools

American Cam Company Inc (Circular Form Tools) Hartford
Pratt & Whitney Div Niles-Bement-Pond Co (Reamers, Taps, Dies, Blades and Knurls) West Hartford
Somma Tool Co (precision circular form tools) Waterbury

Screws

American Screw Company Willimantic
Atlantic Screw Works (wood) Hartford
Blake & Johnson Co The (machine and wood) Waterville
Bristol Company The (socket set and socket cap screws) Waterbury
Clark Brothers Bolt Co Milldale
Connecticut Mfg Co The (machine) Waterbury
Eagle Lock Co The Terryville
Holo-Krome Screw Corporation The (socket set and socket cap) West Hartford
Scovill Manufacturing Company Waterbury 91
Superior Manufacturing Co The Winsted

Screws-Sockets

Allen Manufacturing Company The Hartford
Bristol Co The Waterbury
Holo-Krome Screw Corp The West Hartford

Sealing Tape Machines

Better Packages Inc Shelton

Sewing Machines

Greist Mfg Co The (Sewing Machine attachments) 503 Blake St New Haven
Morrow Machine Co The (Industrial) Hartford
Singer Manufacturing Company The (Industrial) Bridgeport

Shaving Soaps

J B Williams Co The Glastonbury

Shears

Acme Shear Co The (household) Bridgeport

Shells

Wolcott Tool and Manufacturing Company Inc Waterbury

Sheet Metal Products

American Associates Mfg Corp Deep River
American Brass Co The (brass and copper) Waterbury
Merriam Mfg Co (security boxes, fitted tool boxes, tackle boxes, displays) Durham
Parker Company The Charles Meriden
Plume & Atwood Mfg Co The Waterbury
United Advertising Corp Manufacturing Division (Job and Production Runs) New Haven

Sheet Metal Stampings

American Brass Company The Waterbury
American Buckle Co The West Haven
DooVal Tool & Mfg Inc The Naugatuck
J H Sessions & Son Bristol
Patent Button Co The Waterbury
Plume & Atwood Mfg Co The Waterbury

Shipment Sealers

Better Packages Inc Shelton

Showcase Lighting Equipment

Wiremold Company The Hartford

Signals

H C Cook Co The (for card files) Ansonia
32 Beaver St

Signs

Berger Sign Co (neon electric-porcelain enamel-stainless steel) Hartford

Silk Screening on Metal

Merriam Mfg Co (Displays and Specialties, to order) Durham

Sizing and Finishing Compounds

American Cyanamid Company Waterbury

Slide Fasteners

G E Prentice Mfg Co The Kensington
North & Judd Manufacturing Co New Britain
Patent Button Co The Waterbury

Slings

American Steel & Wire Div of U S Steel New Haven

Smoke Stacks

Bigelow Company The (steel) New Haven
Norwalk Tank Co The South Norwalk

Soap

J B Williams Co The (industrial soaps, toilet soaps, shaving soaps) Glastonbury

Special Machinery

Black Rock Mfg Company The Bridgeport
Farrel-Birmingham Company Inc Ansonia
H P Townsend Mfg Company The Elmwood
Lundberg Engineering Company (mandrels & stock shells for rubber industry) Hartford
Swan Tool & Machine Co The Hartford

Special Parts

Greist Mfg Co The (small machines, especially precision stampings) New Haven
J H Sessions & Son Bristol

Special Tools & Dies

Lundberg Engineering Company Hartford

Spinnings

American Metal Products Company Inc Bridgeport
Gray Manufacturing Company The Hartford

Sponge Rubber

Sponge Rubber Products Co The Shelton

Spray Painting Equipment and Supplies

Lea Manufacturing Co The Waterbury

Spring Colling Machines

Torrington Manufacturing Co The Torrington

Spring Units

Owen Silent Spring Division American Chain & Cable Company Inc Bridgeport

Spring Washers

Wallace Barnes Co The Div Associated Spring Corp Bristol (Advt.)

I T ' S M A D E I N C O N N E C T I C U T

Springs—Coil & Flat		Stereotypes		Thread	
Bristol Spring Manufacturing Co	Plainville	New Haven Electrotape Div	New Haven	American Thread Co The	Willimantic
Foursome Manufacturing Co	Bristol	Corp		Belding Heminway Corticelli	Putnam
Humason Mfg Co The	Forestville	Stop Clocks, Electric		Gardner Hall Jr Co The (cotton sewing)	South Willington
Newcomb Spring Corp The	Bridgeport	H C Thompson Clock Co The	Bristol	Max Pollack & Co Inc Groton and Willimantic	Mystic
New England Spring Manufacturing Company	Bridgeport	Straps, Leather		Wm Johl Manufacturing Co	
Peck Spring Co The	Unionville	Auburn Manufacturing Company	The (textile, industrial, skate, carriage)	Thread Gages	
Wallace Barnes Co The Div Associated Spring Corp	Bristol	Studio Couches		Pratt & Whitney Div Niles-Bement-Pond Co	West Hartford
Springs—Flat		Waterbury Mattress Co	Waterbury	Thread Milling Machines	
Bristol Spring Manufacturing Co	Plainville	Super Refractories		Pratt & Whitney Div Niles-Bement-Pond Co	West Hartford
Foursome Manufacturing Co	Bristol	Mullite Refractories Company The	Shelton	Thread Rolling Machinery	
Wallace Barnes Co The Div Associated Spring Corp	Bristol	Surface Metal Raceways & Fittings		Hartford Special Machinery Co The	Hartford
New England Spring Manufacturing Company	Unionville	Wiremold Company The	Hartford	Threading Machines	
Springs—Furniture		Surgical Dressings		Grant Mfg & Machine Co The (double and automatic)	Bridgeport
Owen Silent Spring Division American Chain & Cable Company Inc	Bridgeport	Acme Cotton Products Co Inc	East Killingly	Time Recorders	
Springs—Wire		Seamless Rubber Company The	New Haven	Stromberg Time Corp	Thomaston
Bristol Spring Manufacturing Co	Plainville	Surgical Rubber Goods		Timers, Interval	
Colonial Spring Corporation The	Hartford	Seamless Rubber Company The	New Haven	A W Haydon Co The	Waterbury
Connecticut Spring Corporation The (compression, extension, torsion)	Hartford	Switches—Electric		H C Thompson Clock Co The	Bristol
Foursome Manufacturing Co	Bristol	General Electric Company	Bridgeport	R W Cramer Company Inc The	Centerbrook
D R Templeman Co (coil and torsion)	Plainville	Swaging Machinery		Rhodes Inc M H	Hartford
J W Bernston Company (coil and torsion)	Plainville	Hartford Special Machinery Co The	Hartford	Timing Devices	
Newcomb Spring Corp The Bridgeport Division	Bridgeport	Switchboards		A W Haydon Co The	Waterbury
New England Spring Mfg Co	Bristol	Plainville Electrical Products Company	Plainville	R W Cramer Company Inc The	Centerbrook
Wallace Barnes Co The Div Associated Spring Corp	Bristol	Switchboards Wire and Cables		Lux Clock Manufacturing Company	Waterbury
Springs, Wire & Flat		Rockbestos Products Corp (asbestos insulated)	New Haven	Rhodes Inc M H	Hartford
Autoyre Company The	Oakville	Synchronous Motors		Seth Thomas Clocks	Thomaston
Stamped Metal Products		R W Cramer Company Inc The	Centerbrook	United States Time Corporation The	Waterbury
American Brass Company The	Waterbury	Synthetic Resins		Timing Devices & Time Switches	
Waterbury Companies Inc	Waterbury	American Cyanamid Co (Textile Resins, Paper Resins)	Waterbury	A W Haydon Co The	Waterbury
Stamps		Tanks		Lux Clock Manufacturing Company	Waterbury
Hoggson & Pettis Mfg Co The (steel)	New Haven	Bigelow Company The (steel)	New Haven	M H Rhodes Inc	Hartford
141 Brewery St	New Haven	Norwalk Tank Co The	South Norwalk	Tinning	
Parker Stamp Works Inc The (steel)	Hartford	Storts Welding Company (steel and alloy)	Meriden	Thinsheet Metals Co The (non-ferrous metals in rolls)	Waterbury
Stampings		Tape		Wilcox Crittenden & Co Inc	Middletown
American Associates Mfg Corp	Deep River	Russell Mfg Co The	Middletown	Tools	
American Metal Products Company Inc	Bridgeport	Tapes—Industrial Pressure Sensitive		Hoggson & Pettis Mfg Co The (rubber workers)	New Haven
Donahue Mfg Co Inc	Watertown	Seamless Rubber Company The	New Haven	141 Brewery St	New Haven
DooVal Tool & Mfg Inc The	Naugatuck	Tape Recorders		Tool Chests	
Foursome Manufacturing Co	Bristol	Conn Telephone & Electric Corp	Meriden	Vanderman Manufacturing Co The	Willimantic
Plume & Atwood Mfg Co The (small)	Waterbury	Great American Industries Inc	Meriden	Tools & Dies	
Stampings—Small		Tape Recorder Magazines		Moore Special Tool Co	Bridgeport
Acme Shear Co The	Bridgeport	Conn Telephone & Electric Corp	Meriden	Swan Tool & Machine Co The	Hartford
American Metal Products Company Inc	Bridgeport	Tap Extractors		Tools, Dies & Fixtures	
Bristol Spring Manufacturing Co	Plainville	Walton Company The	West Hartford	Greist Mfg Co The	New Haven
Greist Manufacturing Co The	New Haven	Taps		Tools, Hand & Mechanical	
Wallace Barnes Co The Div Associated Spring Corp	Bristol	Pratt & Whitney Div Niles-Bement-Pond Co	West Hartford	Bridgeport Hardware Mfg Corp The (screw drivers, nail pullers, box tools, wrenches, auto tools, forgings & specialties)	Bridgeport
Stationery Specialties		Tarred Lines		Tools—Pipe Fitters' Hand	
American Brass Company The	Waterbury	Brownell & Co Inc	Moodus	Capewell Mfg Co The	Hartford
Steel		Telemetering Instruments		Toys	
Stanley Works The (hot and cold rolled strip)	New Britain	Bristol Co The	Waterbury	A C Gilbert Company	New Haven
Steel Castings		Telephone Answering & Recording Machines		Geo S Scott Mfg Co The	Wallingford
Farrel-Birmingham Company Inc	Ansonia	Conn Telephone & Electric Corp	Meriden	Gong Bell Co The	East Hampton
Hartford Electric Steel Co The (carbon and alloy steel)	Hartford	Great American Industries Inc	Meriden	N N Hill Brass Co The	East Hampton
540 Flatbush Ave	Hartford	Testers—Insulation Wire & Cable		Waterbury Companies Inc	Waterbury
Malleable Iron Fittings Co	Branford	Davis Electric Company	Wallingford	Tramways	
Nutmeg Crucible Steel Co	Branford	Sperry Products Inc	Danbury	American Steel & Wire Div of U S Steel	New Haven
Steel—Cold Rolled Spring		Textile Machinery		Transformers	
Wallace Barnes Co The Div Associated Spring Corp	Bristol	Marrow Machine Co The	Hartford	Berkshire Transformer Corp The	New Milford
Steel—Cold Rolled Stainless		2814 Laurel St	Hartford	Dano Electric Company	Winsted
Wallingford Steel Company	Wallingford	Textile Mill Supplies		Trucks—Commercial	
Steel—Cold Rolled Strip and Sheets		Ernst Bischoff Company Inc	Ivoryton	Metropolitan Body Company (International Harvester truck chassis and "Metro" bodies)	Bridgeport
American Steel & Wire Div of U S Steel	New Haven	Textile Processors		George P Clark Co	Windsor Locks
Detroit Steel Corporation	New Haven	American Dyeing Corporation (rayon, acetate)	Rockville	Trucks—Lift	
Wallingford Steel Company	Wallingford	Aspinook Corp The (cotton)	Jewett City	Excelsior Hardware Co The	Stamford
Steel Goods		Thermometers		George P Clark Co	Windsor Locks
Merriam Mfg Co (sheets products to order)	Durham	Bristol Co The (recording and automatic control)	Waterbury	Trucks—Skid Platforms	
Steel Rolling Rules		Manning Maxwell & Moore Inc	Stratford	Excelsior Hardware Co The (lift)	Stamford
Waterbury Lock & Specialty Co The	Milford	Thermostats		Tube Bending	
Steel Strapping		Bridgeport Thermostat Company Inc (automatic)	Bridgeport	Donahue Mfg Co Inc	Watertown
Stanley Works The	New Britain	Thin Gauge Metals		Tube Clips	
		Plume & Atwood Mfg Co The	Thomaston	H C Cook Co The (for collapsible tubes)	Ansonia
		Thinsheet Metals Co The (plain or tinned in rolls)	Waterbury	32 Beaver St	Derby
				Weimann Bros Mfg Co The (for collapsible tubes)	
				Tube Fittings	
				Scovill Mfg Co ("Uniflare")	Waterbury
				Tubers	
				Standard Machinery Co The (tubers for both rubber and plastic industries)	(Advt.)

IT'S MADE IN CONNECTICUT

Tubes—Collapsible Metal

Sheffield Tube Corp The New London

Tubing

American Brass Co The (brass and copper) Waterbury
Bridgeport Brass Company (brass and copper) Bridgeport
G & O Manufacturing Co (finned) New Haven
Seoville Manufacturing Company (Brass and Copper) Waterbury 91

Tubing—Flexible Metallic

American Brass Co Metal Hose Waterbury Branch

Tubing—Heat Exchanger

American Brass Company The Waterbury
Seoville Manufacturing Company Waterbury 91

Tumbling Equipment & Supplies

Tumbling Sales & Service Company Greenwich

Tumbling Service

Tumbling Sales & Service Company, Esabec
Tumbling Division Meriden

Typewriters

Royal Typewriter Co Inc Hartford
Underwood Corporation Hartford

Typewriters—Portable

Royal Typewriter Company Inc Hartford
Underwood Corporation Hartford

Typewriter Ribbons and Supplies

Royal Typewriter Company Inc Hartford
Underwood Corporation Hartford and Bridgeport

Underclearer Rolls

Sonoco Products Co (Climax-Lowell Div) Mystic

Vacuum Bottles and Containers

American Thermos Bottle Co Norwich

Vacuum Cleaners

Electrolux Corporation Old Greenwich
Spencer Turbine Co The Hartford

Valves

Norwalk Valve Company (sensitive check valves) South Norwalk

Valve Discs

Colt's Manufacturing Company Hartford

Valves—Automobile Tire

Bridgeport Brass Company Bridgeport

Valves—Radiator Air

Bridgeport Brass Company Bridgeport

Valves—Relief & Control

Beaton & Cadwell Mfg Co New Britain

Valves—Safety & Relief

Manning Maxwell & Moore Inc Stratford

Vanity Boxes

Bridgeport Metal Goods Mfg Co Bridgeport

Varnishes

Baer Brothers Stamford
Staminite Corp The New Haven

Velvets

American Velvet Co (owned and operated by A Wimpheimer & Bro Inc) Stonington
Leiss Velvet Mfg Co Inc The Willimantic
Velvet Textile Corporation The (Velveteen) West Haven

Venetian Blinds

Findell Manufacturing Company Manchester
Jennings Company The S Barry New Haven
New England Shade & Blind Co Inc Durham

Ventilating Systems

Colonial Blower Company Plainville

Vertical Shapers

Pratt & Whitney Div Niles-Bement-Pond Co West Hartford

Vibration Isolation Mountings

MB Manufacturing Company Inc The (for truck engines, aircraft, engine mountings, special machinery) New Haven

Vibration Testing Equipment

MB Manufacturing Company Inc The New Haven

Vibrators—Pneumatic

New Haven Vibrator Company (industrial) New Haven

Vises

Charles Parker Co The Meriden
Fenn Manufacturing Company The (Quick-Action Vises) Hartford
Vanderman Manufacturing Co The (Combination Bench Pipe) Willimantic

Washers

American Felt Co (felt) Glenville
Auburn Manufacturing Company The (all materials) Middletown
Blake & Johnson The (brass, copper & non-ferrous) Waterville

Washers (Continued)

Clark Brothers Bolt Co Milldale
Plume & Atwood Mfg Co The (brass & copper) Waterbury
Raybestos Div of Raybestos-Manhattan Inc (the clutch washers) Bridgeport
J H Rosenbeck Inc Torrington
Saling Manufacturing Company (made to order) Unionville
Sessions Foundry Co The (cast iron) Bristol

Washers—Felt

Chas W House & Sons Inc (Mills & Cutting Plant) Unionville

Washing Machines—Electric

General Electric Company Bridgeport

Watches

E Ingraham Co The Bristol
United States Time Corporation The Waterbury

Water Heaters

Whitlock Manufacturing Co The (instantaneous & storage) Hartford

Water Heaters—Electric

Bauer & Company Inc Hartford

Water Heaters—Gas or Kerosene

Holyoke Heater Corp of Conn Inc Hartford

Waterproof Dressings for Leather

Viscol Company The Stamford

Waxes

Harrison Company The A S (and other protective coatings) South Norwalk

Waxes—Floor

Fuller Brush Co The Hartford

Wedges

Saling Manufacturing Company (hammer & axe) Unionville

Welding

Farrel-Birmingham Company Inc Ansonia
G E Wheeler Company (Fabrication of Steel & Non-Ferrous Metals) New Haven
Industrial Welding Company (Equipment Manufacturers—Steel Fabricators) Hartford
Porupine Company The Bridgeport

Welding—Lead

Storts Welding Company (tanks and fabrication) Meriden

Welding Rods

American Brass Company The Waterbury
Bristol Brass Co The (brass & bronze) Bristol

Wheels—Industrial

George P Clark Co Windsor Locks

Wicks

Auburn Manufacturing Company The (felt, asbestos) Middletown
Holyoke Heater Corp of Conn Inc Hartford
Raybestos Div of Raybestos-Manhattan Inc (the oil burner wicks) Bridgeport
Russell Mfg Co The Middletown

Window & Door Guards

Hartford Wire Works Co The Hartford
Smith Co The John P New Haven

Window Shades

New England Shade & Blind Co Inc Durham

Wiping Cloths

Federal Textile Corporation New Haven

Wire

American Brass Company The Waterbury
American Steel & Wire Div of U S Steel New Haven
Atlantic Wire Co The (steel) Branford
Bartlett Hair Spring Wire Co The (hair spring) North Haven
Bridgeport Brass Company (brass and silicon bronze) Bridgeport
Bristol Brass Corp The (brass & bronze) Bristol
Driscoll Wire Co The (steel) Shelton
Hudson Wire Co Winsted Div (insulated & enameled magnet) Winsted
Platt Bros & Co The (zinc wire) Waterbury
P O Box 1030 Waterbury
Plume & Atwood Mfg Co The (brass, bronze, nickel silver) Thomaston
Seoville Manufacturing Company (Brass, Bronze and Nickel Silver) Waterbury 91

Wire and Cable

General Electric Company (for residential, commercial and industrial applications) Bridgeport

Wire Arches & Trellises

Hartford Wire Works Co The Hartford
John P Smith Co The 423-33 Chapel St New Haven

Wire Baskets

Rolock Inc (Industrial—for acid, heat, degreasing) Fairfield
Wiretex Mfg Co Inc (Industrial, for acid, heat, treating and degreasing) Bridgeport

Wire Cable

Bevin-Wilcox Line Co The (braided) East Hampton

Wire Cloth

Hartford Wire Works Co The Hartford
C O Jelliff Mfg Co The (all metal, all meshes) Southport
Pequot Wire Cloth Co Inc Norwalk
Rolock Incorporated Fairfield
Smith Co The John P New Haven

Wire Drawing Dies

Waterbury Wire Die Co The Waterbury

Wire Dipping Baskets

Hartford Wire Works Co The Hartford
John P Smith Co The 423-33 Chapel St New Haven

Wire Formings

Autoyre Co The Oakville
G E Prentice Mfg Co The Kensington
North & Judd Manufacturing Co New Britain
Verplex Company The Essex

Wire Forms

Bristol Spring Manufacturing Co Plainville
Colonial Spring Corporation The Hartford
Connecticut Spring Corporation The Hartford
Foursome Manufacturing Co Bristol
Humason Mfg Co The Forestville
New England Spring Mfg Co Unionville
Templeman Co D R Plainville
Wallace Barnes Co The Div Associated Spring Corp Bristol

Wire Goods

American Buckle Co The (overall trimmings) West Haven
Patent Button Co The Waterbury
Seoville Manufacturing Company (To Order) Waterbury 91

Wire Partitions

Hartford Wire Works Co The Hartford
John P Smith Co The 423-33 Chapel St New Haven

Wire Products

Clairglow Mfg Company Portland
Plume & Atwood Mfg Co The (to order) Waterbury

Wire Reels

A H Nilson Mach Co The Bridgeport

Wire Rings

American Buckle Co The (pan handles and tinner's trimmings) West Haven
Templeman Co D R Plainville

Wire Rope and Strand

American Steel & Wire Div of U S Steel New Haven

Wire Shapes

Bridgeport Chain & Mfg Co Bridgeport

Wire—Specialties

Andrew B Hendryx Co The New Haven

Wires and Cable

Rockbestos Products Corporation (all asbestos, mining, shipboard and appliance applications) New Haven

Wooden Boxes

Wallingford Planing Mill Co Inc Yalesville

Wood Handles

Salisbury Cutlery Handle Co The (for cutlery & small tools) Salisbury

Wood Scrapers

Fletcher-Terry Co The Forestville

Woodwork

C H Dresser & Sons Inc (Mfg all kinds of woodwork) Hartford
Hartford Builders Finish Co Hartford

Woodworking

Contemporary Classics Inc (fine cabinet work and furniture) Stamford
Local Industries Inc Lakeville

Woven Felts—Wool

Chas W House & Sons Inc (Mills & Cutting Plant) Unionville

Yarns

Hartford Spinning Incorporated (Woolen, knitting and weaving yarns) Unionville
Aldon Spinning Mills Corporation The (fine-woolen and specialty) Talcottville
Ensign-Bickford Co The (jute carpet) Simsbury

Zinc

Platt Bros & Co The (ribbon, strip and wire) P O Box 1030 Waterbury

Zinc Castings

Newton-New Haven Co Inc 688 Third Ave West Haven (Advt.)

Town Meeting—Factory Style

(Continued from page 54)

The February elections for school boards in New Jersey also produced a good turnout of members. Eight of 11 who entered the races in ten different municipalities were successful. In three cases this was the first venture into the political field and in each case directly ascribable to participation in the Sound Government program.

Better government has been achieved in several communities where Sound Government members, either as elected officials, or as interested citizens have been able to utilize their knowledge of time-and-motion studies, accounting or some other specialty to assist in improving the functioning of government. What has been accomplished by the presence of members at local council meetings and by service on appointive commissions is incalculable.

The membership has applied itself in the political field by helping to get out the vote, expressing opinions to government officials, ringing doorbells in political campaigns, making political speeches, organizing meetings and, in general, utilizing their abilities, to help make government better serve the interest of the citizens.

When Sound Government members have taken an active part in government they have helped develop their capacity to get along with people, to use their judgment and skill in a field that is less tangible than business and industry. Experience in government is a good training ground for rising executives. For those who reach top management positions and conceivably some day are called to Washington for service, the background of experience in political life on the local front should prove of inestimable value.

Also employee relationships within the company are improved by a program of this nature. The far-removed salesman and engineer, the production man and advertiser, the personnel executive and accountant have a common meeting ground in their mutual interest in government.

The work done by members of the company in government help to

achieve better plant-community relations. The chores done by interested members are assessed by the man in the street. The majority of citizens applaud participation in government by business men who are trying to do a good job in the party of their choice.

Some comparisons are pertinent between the general government activity of the Sound Government group and that of a 1950 nationwide sampling of 8,000 persons as reported by the Political Science Review. In the sample 75% voted in general elections whereas in the Sound Government group an informal poll showed better than 90%.

The sample indicated that 21% share frequently in discussion of political issues. The Sound Government poll indicated four times that percentage.

Again the sample indicated that 13% had written to their congressmen against at least 75% among the Sound Government group.

The sample found that one in 10 worked for the election of a political candidate. One in five is a good estimate of the effort within the Sound Government membership.

There is no doubt among the Sound Government group that better government is something that men in business and industry can work for in greater numbers. The same increase in productivity common to industry can also be achieved in the field of representative government if men and women will apply themselves to the task.

Based upon the testing period of over two years the program has exceeded expectations. Employees will participate at the working place in non-partisan self-education in government and a substantial percentage of them will join political organizations in their home communities and work towards the improvement of government. In fact, a good many of them will even run for office.

Through the Sound Government program the members have taken a long step forward in assuming responsibility for government. They have lived up to their slogan that "Sound Government Assures a Free America" by making the factory the town meeting of the machine age.

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